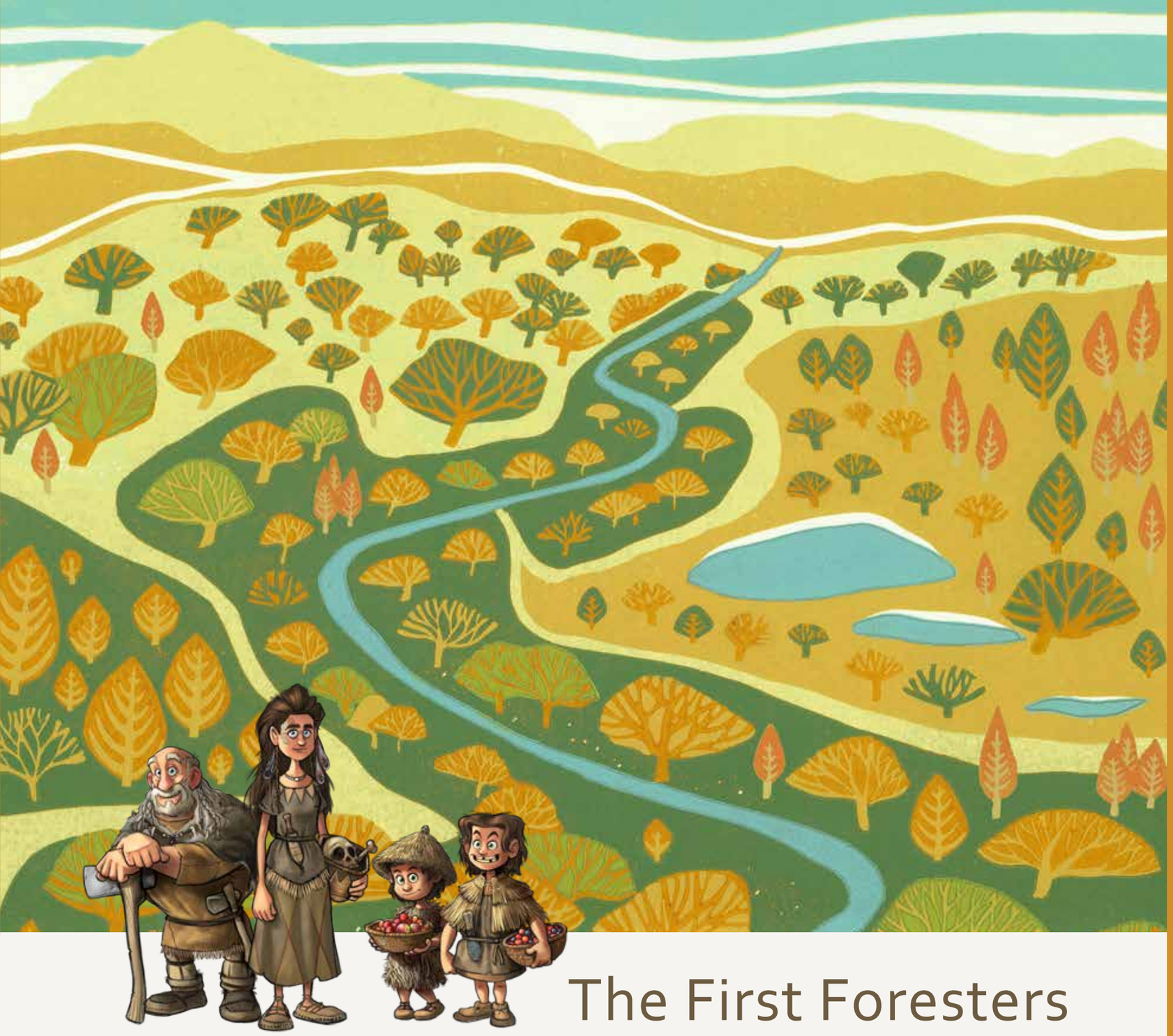

The First Foresters

Explore the Neolithic in Scotland's native woodlands

"People shape environments, but environments also shape people. In the Neolithic, changing relationships with the environment were at the root of the major developments that characterised this dramatic period of human history."

Gordon Noble, *Woodland in the Neolithic of Northern Europe* 2017, 187.

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Explore the Neolithic in Scotland's native woodlands

By Kim Biddulph and Matt Ritchie

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Explore the Neolithic
in Scotland's native woodlands

Contents

Introduction

Everyone has heard of Stonehenge, perhaps the greatest stone circle of them all. But have you heard of its neighbour, Woodhenge?

This learning resource moves beyond the familiar stone circles of prehistory to explore the archaeology of our lost timber halls and timber circles. An inspirational blend of discussion, practical and creative indoor activities and outdoor woodland learning, the resource draws on the work of leading archaeologists to describe a very different Neolithic – one not of stone but of wood.

Following on from *Wolf Brother's Wildwoods*, where we imagined the world of the Mesolithic hunter-gatherers living within the wildwood, we now visit the Neolithic farming pioneers and imagine the world of the first foresters working within the wildwood. Our key objective is to explore the interconnected ideas of Neolithic first farmers, first foresters and first builders – and to encourage indoor and outdoor learning by 'thinking like a first forester'.

Using this resource

The period we're going to study spans 1500 years or about 60 generations, from around 4000 BC to around 2500 BC. It's an almost unimaginable length of time. But it's important to grasp the huge scale of the Neolithic period. Use the timeline in our *Outdoor Archaeological Learning* resource to set the scene and place the Neolithic in its chronological context. But remember this resource is not a comprehensive account of the Neolithic, and it should be used alongside the books listed in the **further reading** section.

This learning resource aims to help teachers and youth group leaders explore the Neolithic as part of teaching and learning in **People**, **Past Events and Societies**, **Religious and Moral Education**, **Mathematics**, and **Sciences**. The activities and topics involve lots of measuring, drawing and thinking – of timber volume and architectural space – and the discussion of ancient worldviews alongside an exploration of our own. These activities are most suitable for pupils at *Curriculum for Excellence* Level 2 but may be adapted for those working at Level 3.

Activities include exploring the common architectural vocabulary of houses and rooms; researching any Neolithic polished stone axeheads that may be local to the school or group; making scale models; and going outside into the woods to measure trees and estimate their volume. Suggested classroom discussions are based around the concept that aspects of our own culture and thinking are perhaps still rooted in the Neolithic period.

In engaging pupils in learning out of doors and conducting meaningful research within the classroom, archaeological learning can provide real and cohesive links across a range of curricular areas. For example, investigating the process of building a timber circle can be used to develop skills in relation to **Mathematics** and **Sciences**. Exploring the spiritual aspects of past societies and belief systems can support learning in **Religious and Moral Education**. Imaginative creative writing can help confirm learning and understanding and benefit both the **Expressive Arts** and **Literacy and English**. The process of exploring the woodland environment itself can contribute to outcomes in **Health and Wellbeing**.

The First Foresters should be used in conjunction with Outdoor Woodland & Learning Scotland's *Tree Measuring: connecting trees with the Curriculum for Excellence* resource, which shows how measuring trees can support progression in numeracy and mathematical skills. Measuring the properties of trees – their height, spread, girth and internal structure – provides a window into the world of work, where these measurements carry real value and meaning.

Progressing thorough the activities described within *Tree Measuring* can help children:

- interpret questions
- select and communicate processes and solutions
- justify the choice of strategy used
- link mathematical concepts
- use mathematical vocabulary and notation
- use mental agility
- reason algebraically
- determine the reasonableness of a solution

These activities encourage the development of numeracy skills and support their use in other curriculum areas. There is a focus on the mathematics and numeracy benchmarks, but also plenty of scope for linking to other areas of the *Curriculum*, such as an exploration of the world of the Neolithic first foresters.

The First Foresters covers three structural themes and one conceptual topic. We will focus on the timber structures and polished stone axeheads of the early Neolithic; on huge and enigmatic timber structures such as cursus

Broadleaf woodland at Jock's Gill in the Upper Clyde valley. ►

monuments; and particularly on late Neolithic timber circles. Our conceptual topic explores the Neolithic Mind and the idea of 'thinking Neolithic' with a series of storytelling activities.

Quotes have been spread throughout the text from contemporary archaeologists, to help make some of the key ideas more accessible, and to link to discipline of archaeology itself. For archaeology is not just about digging trenches and filling museums. It is a methodology and a way of thinking that can help piece together clues from our shared past. Through observation and discussion, ideas and theories take shape.

> *"Archaeology is the study of the human past through its material remains. Through archaeological research and analysis of our places, artefacts and ecofacts, everyone can explore, better understand, value and care about the prehistory and history of Scotland's people, culture and landscape."*
>
> **Scotland's Archaeology Strategy, 2015.**

Timber posts and postholes

When the early Neolithic farmers spread into central Europe from the Near East, in the sixth and early fifth millennium BC, they built huge timber longhouses often organised into hamlets and small villages. Their culture is known as the *Linearbandkeramik* after their distinctive style of pottery, and their longhouses were very clearly domestic homes. The descendants of the successful *Linearbandkeramik* farmers fragmented into more culturally varied groups and spread across northern and western Europe. They eventually crossed the English Channel to reach Britain around 4000 BC, sailing from the north coast of France. Other immigrant farmers came from Brittany, reaching Scotland along the west coast.

These early Neolithic pioneers brought a new, Continental lifestyle and transformed the culture and landscape of Britain. These experienced farmers brought agricultural knowhow, domesticated plants and animals and radical new ideas about life and society. They quickly began to clear the wildwood for their crops and pasture. They needed space to farm and timber to build. And build they did, first constructing huge timber halls and impressive monuments

◄ **Northern birchwood at Drumbeg. Downy birch is the naturally dominant species in the far northwest of Scotland. Birch seed carries far on the wind and loves to germinate on bare ground.**

of stone or earth to honour and remember their dead, then building enigmatic long linear monuments of timber and earth, before finally erecting ceremonial circles in timber and stone. Some of the timber constructions that we will study are enormous monuments that took generations to build, using only timber posts, stone axeheads, rollers, ropes and muscle.

We are going to learn about what they built, and think about how and why they built them. The archaeological evidence is slight, for while stone, bone and pottery may remain, wood will rot away. But it is the timber monuments of the Neolithic that are perhaps the easiest to imagine constructing – felling and cutting trees, preparing posts and erecting timber frames and structures – while the woodland environment within which they lived is perhaps the easiest to envisage and relate to.

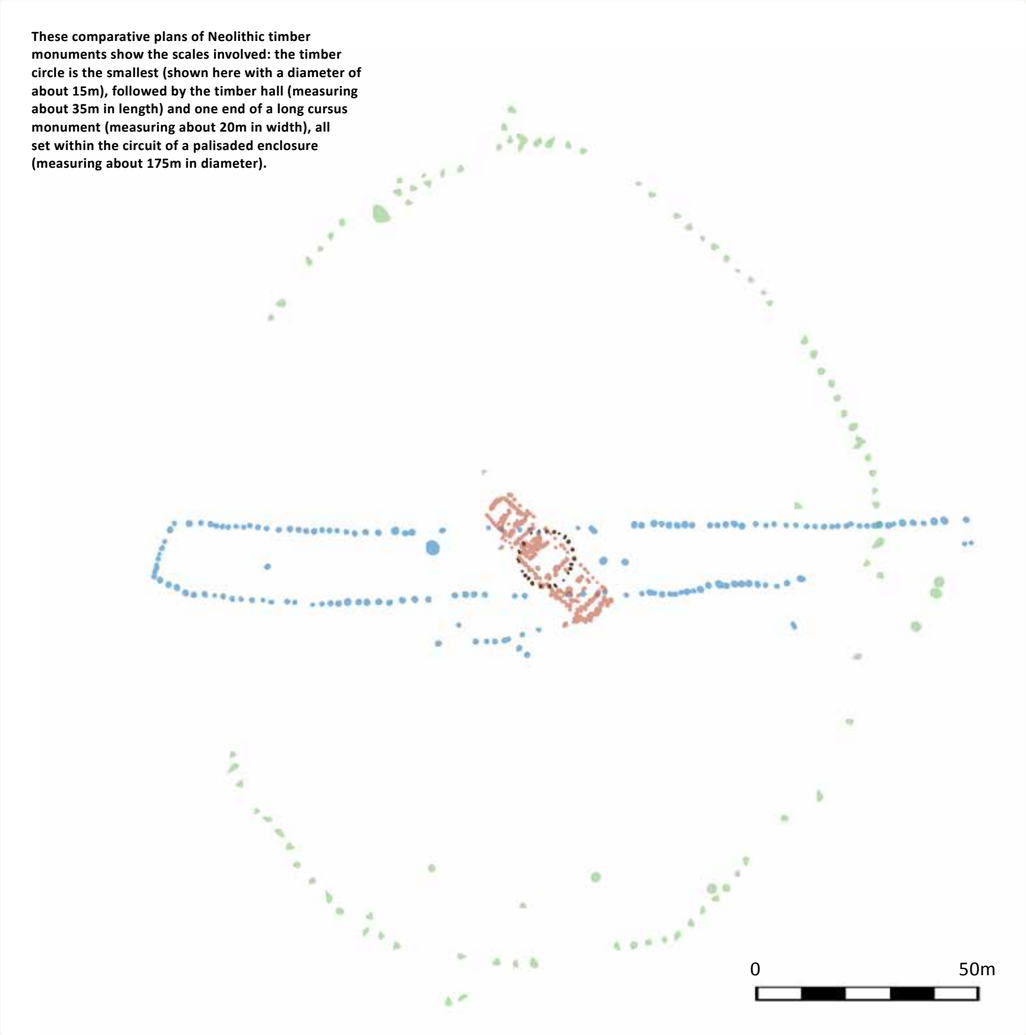
> *"In some ways, people in the Neolithic were just like us: they were concerned with how they made a living, they had children, lost people they cared about and dealt with their dead with ceremony and care. We find evidence of the houses they lived in, the meals they ate and the rituals they were involved in."*
>
> **Vicki Cummings 2017, 7.**

However, beyond the stone chambered cairns that dot our landscape and museum exhibitions of their artefacts, evidence of our early Neolithic ancestors can be hard to find. The timber monuments we will describe have been discovered by archaeologists uncovering lines of 'postholes' during excavation, or by plotting them from cropmarks identified by aerial photography. Postholes are marks left in the ground where timber posts once stood. Once the wood rotted away, soil filled the holes and now only the outline of the original pit is visible as the interface between the two types of soil – the 'natural' and the 'infill'.

Writing of the early Neolithic timber house at White Horse Stone in Kent, the earliest Neolithic building yet to be found in Britain, the archaeologist David Miles described the excavated remains as "a grid of dark marks, indicating where a building had stood... as if the wooden structure had been sucked into the sky, leaving only an imprint behind" (2016, 227).

So while Neolithic stone structures can still survive (where they have not been cleared away by later generations), timber structures survive only as postholes found under plough soil or visible as cropmarks on aerial photographs. Postholes, and sometimes foundation trenches for plank-built structures, are all that remain to be found of Neolithic timber structures.

The excavation of Carnoustie Neolithic timber hall. The ground plan of the building is visible as a series of post holes. The hall measured over 35m in length and over 9m in width. ►



These comparative plans of Neolithic timber monuments show the scales involved: the timber circle is the smallest (shown here with a diameter of about 15m), followed by the timber hall (measuring about 35m in length) and one end of a long cursus monument (measuring about 20m in width), all set within the circuit of a palisaded enclosure (measuring about 175m in diameter).

There are many different types of timber structure found in Neolithic Britain, but we are going to focus on three main structures: the *timber hall* (from the earliest Neolithic), the *cursus* monument and the *timber circle* (from the Late Neolithic).

Radiocarbon dating

The problem of dating archaeological sites was helped enormously by the application of scientific techniques from the 1970s onwards, enabling archaeologists to gain far greater clarity and understanding. Now we routinely use radiocarbon dating to date various organic materials. In a nutshell, if archaeologists find once-living things such as burnt cereal grains, wood and bone during their excavations, they can send a sample away for laboratory analysis. All once-living tissue such as bone or wood contains a record of the naturally occurring radioactive carbon (C14) isotopes that were in the atmosphere when it was alive. As the amount of C14 in the atmosphere varies over time, by measuring its content within a sample, we can calibrate the probable date to a range of years using dates taken from materials of known ages (such as preserved wood from long-lived trees where counting tree-rings can give us an exact age). With a suite of dates for a site, and the better their excavated stratigraphic distribution, we can use a technique known as Bayesian modelling to make our dating more precise and accurate.

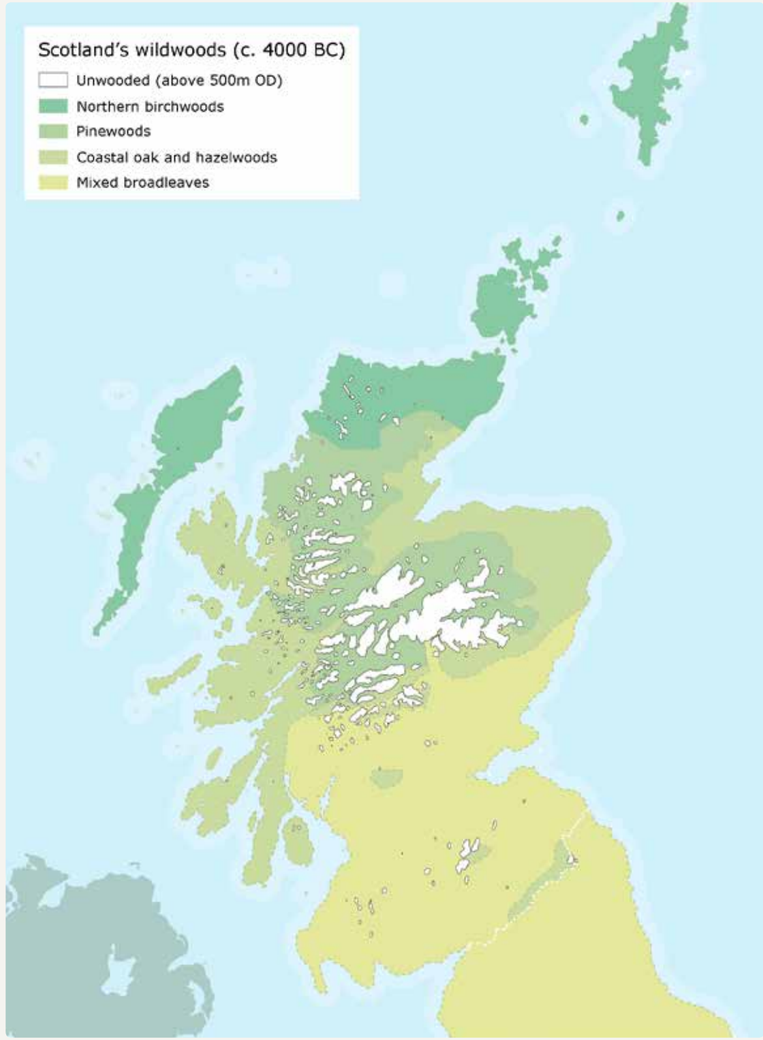
The Neolithic Transformation

"New people had arrived by sea, bringing their domestic livestock and seed-grain with them. Those of the indigenous [hunter-gathering] population who were prepared to embrace the new lifestyle soon became indistinguishable from the immigrant population through intermarriage and emulation. Those who found it alien died out. The transformation had taken place over little more than ten generations"

Barry Cunliffe 2013, 178.

The Neolithic 'cultural package' reached Britain and Ireland from different parts of northern France around 4000 BC. Archaeologist Caroline Wickham-Jones describes a 'land of bread-makers', where small-scale cereal production by individual communities formed the economic mainstay, alongside the husbandry of cattle, sheep and pigs. The first farmers used the rivers and coasts to move easily about the landscape and cleared woodland to create space to live and farm. They grew cereals – wheat and barley – and grew flax for its nutritious seeds and oil, and for making cloth. They used round-based pottery for cooking and serving food, and shaped stone and wood for their tools. However, they were totally unaware of metal, which did not start to be used here until around 2500 BC. They polished their stone axeheads, and knapped fine leaf-shaped arrowheads out of flint. They made things out of organic materials, such as baskets, rope and tools of bone and antler.
And they built monuments out of timber, stone and earth.

It was important for these immigrant farmers to maintain the lifestyle that they had enjoyed on the continent. They kept in touch with each other, establishing a network of local and regional social and kinship ties, and maintained short and long-distance exchange networks of objects, knowledge and ideas.



But how and why did farming come to replace the hunting, gathering and fishing of earlier millennia? Archaeologist Neil Oliver notes that "on the face of it, farming is a life of grinding toil, a repetitive, limited diet and the ever-present threat of disease caused by constant proximity to too many unsanitary people. The tedium is enlivened only by the very real possibility of a failed harvest followed by famine and death. Compared to the life of the hunter-fisher-gatherer, cooking venison, beef and fish over roaring fires, harvesting wild foods and moving always to fresh ground and new horizons, it seems to have little to offer. And yet it became and still is the basis of the society in which we live today" (2011, 62).

"Farming is habit forming: once you have cleared the land and put the practices into motion you have begun to alter the natural order of things and it becomes increasingly hard to go back. Not only do you rely on your new sources of food, but you have begun to destroy the habitats relied on by the old animals and plants that once served to nourish you. New skills are necessary for the farmer; new knowledge supplants the older ways of the forager. Once you have started to farm you are hooked; it is increasingly difficult to return to the life of the hunter-gatherer"

Caroline Wickham-Jones 2010, 70.

Despite its hardships and the way that farming anchors people to the land, it may be that this way of life – where food was produced, rather than gleaned from the wild – seemed to promise a steadier supply of things to eat, and so the indigenous hunters, fishers and gatherers chose to adopt it. Of course, the farmers didn't ignore the wealth of wild foods all around them. There is plenty of evidence that they hunted and gathered wild foods. But they don't seem to have eaten fish – even where they lived next to the coast. This was a cultural choice, perhaps reflecting their traditions 'back home'.

Entering the wildwood

Around 6000 years ago, at the end of the Mesolithic period, Scotland's extensive woodland covered the land from shore to treeline. The composition of this woodland depended on soil type, climate and latitude, alongside a number of other local factors. In lowland and eastern Scotland, the mixed broadleaf woodlands were dominated by oak, alongside hazel, elm, pine and birch; pinewoods dominated northern Scotland; and scrub-like oak and hazel woodlands could be found on the islands and Atlantic coastline of the north and west.

The lowland wildwood would have contained colossal hardwood trees that were tens of metres tall and metres thick. The wildwood was also home to a wide range of animals, including brown bears, wolves, aurochs (wild cattle), boars, deer and beavers. The animals of the wildwood made a huge impact on their woodland habitat. Aurochs would have opened and maintained clearings to graze, clearings which would have attracted deer and been less prone to woodland regeneration. Beaver dams diverted water courses and swamped areas, drowning trees. Storm events and forest fires would also have created open areas. However, the woodland itself was constantly regenerating, as every opening in the canopy whether large or small was an opportunity for the tree species competing for sunlight.

The early Neolithic pioneers did not change Scotland's landscape quickly. It would be a mistake to imagine the clearance of the wildwood was deforestation on an epic scale. Although gaps in the woodland are visible in the environmental pollen record for the Neolithic, they are generally no larger than natural clearings identified during the Mesolithic. The landscape in the early fourth millennium BC was a mosaic of clearings ranging in size and duration, all set within a patchwork of woodland and forest.

So the early Neolithic farmers lived and worked *within* a predominantly wooded environment. Pollen and lake sediment records for the early Neolithic indicate phases of woodland clearance, a gradual expansion of agricultural activities and accelerated soil erosion. Clearings were used for arable land and for pasture and, if not grazed, would have eventually been reclaimed by regenerating trees. The farmers would periodically change the location of their fields to get the best out of the soil.

As soon as they arrived, our Neolithic farmers and foresters started to manage and exploit the wildwood – for hunting, for grazing, for timber, for fuel and for food. The first foresters will have managed their woodlands, and would have selected the best trees for monument building, those that grew straight and tall. Their most important – and most iconic – piece of equipment was the stone-headed axe.

Stone axeheads were made from knapped flint or, more commonly, from rock that was pecked or flaked into shape before being ground and sometimes polished. These stone axeheads often came from specific quarries on specific mountains and were exchanged over long distances. They were clearly highly prized. Some were even carefully deposited as offerings in special places, never to be seen again until they were found by accident or by archaeologists, thousands of years later. Some, in particular the exquisite axeheads of Alpine rock such as green jadeitite that the farmers had brought with them as precious heirlooms, were probably never used to chop wood. These green treasures from far distant mountains occupied a special place in the belief system. People may have believed that they possessed divine power to protect communities, and that they had to be returned to the world of the gods, especially by placing them in watery locations, after they had done their work.

Some axeheads were used for work. They were valuable tools, as polished stone axeheads worked the timber much more efficiently than earlier flaked axeheads.
Illustration by Alice Watterson

Axes with stone heads can be used effectively to fell smaller trees (of around 0.3m to 0.5m in diameter) quickly – in just 20 minutes in some cases – and they can also be used to fell larger trees, although other techniques of felling such trees, such as ring-barking to kill the tree standing, were also probably used. The archaeological evidence of split logs, posts and planks is testament to the Neolithic forester's skill with an axe, an adze and wedges – and different axes would probably produce different results and be used for different tasks. Experimental archaeology suggests that groundstone axe-and adze-heads were effective for felling and chopping, while flint axe- and adze-heads may have been preferred for finer work and carpentry (although stone versions would also do the job well). Stone axeheads were essential in transforming the woodland landscape during the Neolithic. Archaeologist Gordon Noble observes that "the stone axehead allowed people to alter the world around them and to make *being* Neolithic possible" (2017, 68). We know that the stone axehead played a special role in Neolithic symbolism on the continent, from where the farmers had come.

Are we still Neolithic?

In describing the impact of the introduction of farming to Britain, the archaeologist David Miles has written of a Neolithic transformation in his book *The Tale of the Axe*, noting that "to farmers, plants and animals were commodities and possessions." Farming involved different attitudes to the wildwood from those of Mesolithic foragers and hunters: the forest was there to be managed and exploited. Perhaps it was no longer a place to live within, as the Mesolithic hunter-gatherers had done, but was a place to live alongside, in new clearings carved from an ancient landscape. For once land is extracted from the forest, cleared, cultivated and sown, it becomes distinct – a bounded place, owned and managed. "New gods were required," writes Miles "along with a change in mentality" (2016, 203).

Perhaps aspects of our own culture and thinking are still rooted in the proprietary mind-set of the Neolithic farmer. Are we still Neolithic?

Suggestions are posed throughout this resource to stimulate discussion and explore this question. Neolithic people had no scientific explanations for the world around them. They had observation, storytelling and hearsay. They must have had a complex cosmology to help explain things that we now take for granted, such as the rising and setting of the sun, thunder and lightning, the changing seasons, life and death – even things like the reflection we can see in still water. Exploring how we think about our environment today – our homes, our families, the world around us – can help us understand the past and reflect upon the present.

Magnificent Scots pine trees growing above an understory of downy birches in Glen Loy. These ancient trees can grow for up to 500 years. This is a western pinewood where other trees such as oak and hazels grow on the richer soils. ►

"Our modern world separates daily life from religion or ritual to an extent that would be incomprehensible to a farmer from the Neolithic period. In most non-industrial societies all aspects of life, from the process of farming to the choice of a marriage partner, from the treatment of illness and death to the relationship between and within families, are bound together by custom, mutual obligations, ritual and religion to a far greater extent than in our own society."

Gordon Barclay 1998, 19.

Ask the class to think of things that they take for granted and can explain about their everyday life (like the sun rising, rainbows or how the toaster works). When you discuss the results with the class, write their suggestions in the first column of three on your whiteboard.

Discuss the things that they take for granted and think they can explain. Can they really explain how the sun rises or how the toaster works? Can they really explain the daily spin of the earth around its axis, why a rainbow appears or how electricity works? Move some of the things in the first column into the second column. How do they deal with things that they take for granted but can't really explain? What would they do if the things they took for granted disappeared or stopped working? Record their responses in the third column.

The aim is to show the psychological links between scientific knowledge and certainty (of how explainable things work), casual expectation and faith (that unexplainable things will continue to work), and unusual worry and fear (when unexplainable things stop working). A perfect example of this linear psychological chain is the sun rise: in the past, people had a reasonable certainty that the sun would rise each morning (as it always did), but had to rely on faith that it would continue to do so (as they had no knowledge of the solar system) – and must have been terrified by a sudden solar eclipse. Some natural events such as rainbows, thunder and lightning, bird murmurations and migrations must have had special meaning.

Exploring the differences and similarities between cultural aspects of past societies and our own can support learning in **Religious and Moral Education**.

This dead pine tree may have stood like this for many years. Some things change very slowly in ancient woods. ►

Timber halls and mortuary structures

While only a few 'normal'-sized houses from the early Neolithic have been found in Scotland, several large timber houses or 'halls' have been identified. These were substantial rectangular buildings, measuring between 22m and 35m in length and between 8m and 11m in width. The largest, at Carnoustie, would have had an internal space of between 230 and 287 square metres: bigger than many apartments today. They were defined by large timber posts of oak, with plank or wattle-and-daub walls between the uprights. They probably had a thatched roof, perhaps measuring up to 8m in height at the apex, and had doorways at the end or along the side. At Warren Field, Crathes in Aberdeenshire, there seemed to be at least one door at each end. Internal partitions divided the inside into rooms or compartments. All were burnt down at the end of their use. The Crathes hall had two large free-standing posts inside it, erected before the hall had been constructed. It has been suggested that these could have been carved like totem poles. At Balbridie, across the river Dee from Crathes, thousands of cereal grains were found inside the hall: this could have been seed-grain. And it may be that farm animals were brought into the halls at night, to keep them safe.

The rapid rise and fall of the early Neolithic timber hall – they were only built during the first two or three centuries of the Neolithic – and their isolated nature, without supporting buildings, suggest that they were singular fixed points within the wildwood, built by the pioneering farming groups. The timber halls may have acted as community hubs, and the similarities in their architectural vocabulary seen in their ground plans suggest a common 'accepted' vision, and a common sense of purpose. The excavated example from Crathes has been shown to have stood in a large clearing perhaps 2km across. This clearing appears to have been used for growing cereals, although there may also have been small stands of hazel, perhaps as a managed coppiced crop, in amongst the cereal plots.

The construction of these substantial timber buildings created large architectural spaces which looked, sounded and smelled different from anything that had previously been constructed in Scotland. The creation of walls and doors make it easier to control who was allowed in and when. The interiors were also probably subdivided into different rooms. The sequence in which rooms were visited and what occurred in them could have been important to those who were allowed in. Who was allowed into each room and why?

Archaeologists have suggested a range of uses for these imposing structures: grain storage depots, to protect the all-important seed-grain; communal residences, perhaps only in seasonal use, perhaps over winter; cult buildings, perhaps important for spiritual reasons, or only used by specific types of people; feasting halls, perhaps a place where the community could safely gather together; or simply 'big houses' for 'big folk', the dwellings of the most important families in society. The most likely explanation, given that they were a short-lived phenomenon, is that these were the communal dwelling places of the first farming groups to arrive in an area. Families would live together, partly for their own safety, until the community felt well enough established to 'bud off' into individual, smaller houses for each family.

Timber also featured prominently in the rituals that early people used to deal with the dead. The custom was to leave the corpses of the dead exposed in the open long enough for the flesh to be picked off by scavengers or lost to decay. Once the remains had been reduced to mere bones, the skeleton was gathered up, or cremated. This is known as *excarnation* and has been practised by many cultures around the world (such as the native North American tribes). Exposure to birds is most successful, as the bones are rarely lost and can be given a final burial.

Timber mortuary structures – described here as 'Tables of Bones' – have been found across the east of Britain and in Northern Ireland, and they would also have been used in south-west Scotland. Most were built by splitting the trunk of a large mature oak then setting the two halves upright but apart. This may have supported a timber platform or even a further large horizontal timber, perhaps reflected in the architecture of the impressive stone dolmens of the west. Between them there would probably have been a timber platform or chamber, on (or in) which the dead would be laid. Most of these 'Tables of Bones' were then burnt down, with many being covered by long rectangular or trapezoidal barrows and a few by round barrows. Only a few people have been found in each of these mortuary structures, which suggests that they were only used for a single family or group of people, rather than being returned to over the generations. What happened to other members of the community is unclear.

This artistic reconstruction drawing explores the process of excarnation and the timber mortuary structure or 'Table of Bones'. There are several corpses laid out in various states of decay. The timber mortuary structure is shown as two big split upright timbers with one massive plank or log on the top, similar to a stone portal dolmen. ►

Illustration by Alan Braby, coloured by Ian Kirkwood

A common architectural vocabulary?

A simple overview of the prehistory of domestic architecture in Britain and Ireland sees rectangular buildings in the Early Neolithic change into the dominant and familiar round houses of the Bronze and Iron Ages before long houses become the norm in the early historic and medieval periods. These architectural shifts must reflect complex social changes, and is an interesting concept to discuss. Today, we live in square houses with square rooms. Has anyone ever lived in a round house? Can anyone think of round architecture today? Even our sports are usually played in squares and rectangles!

ACTIVITY 1

Modern floor plans

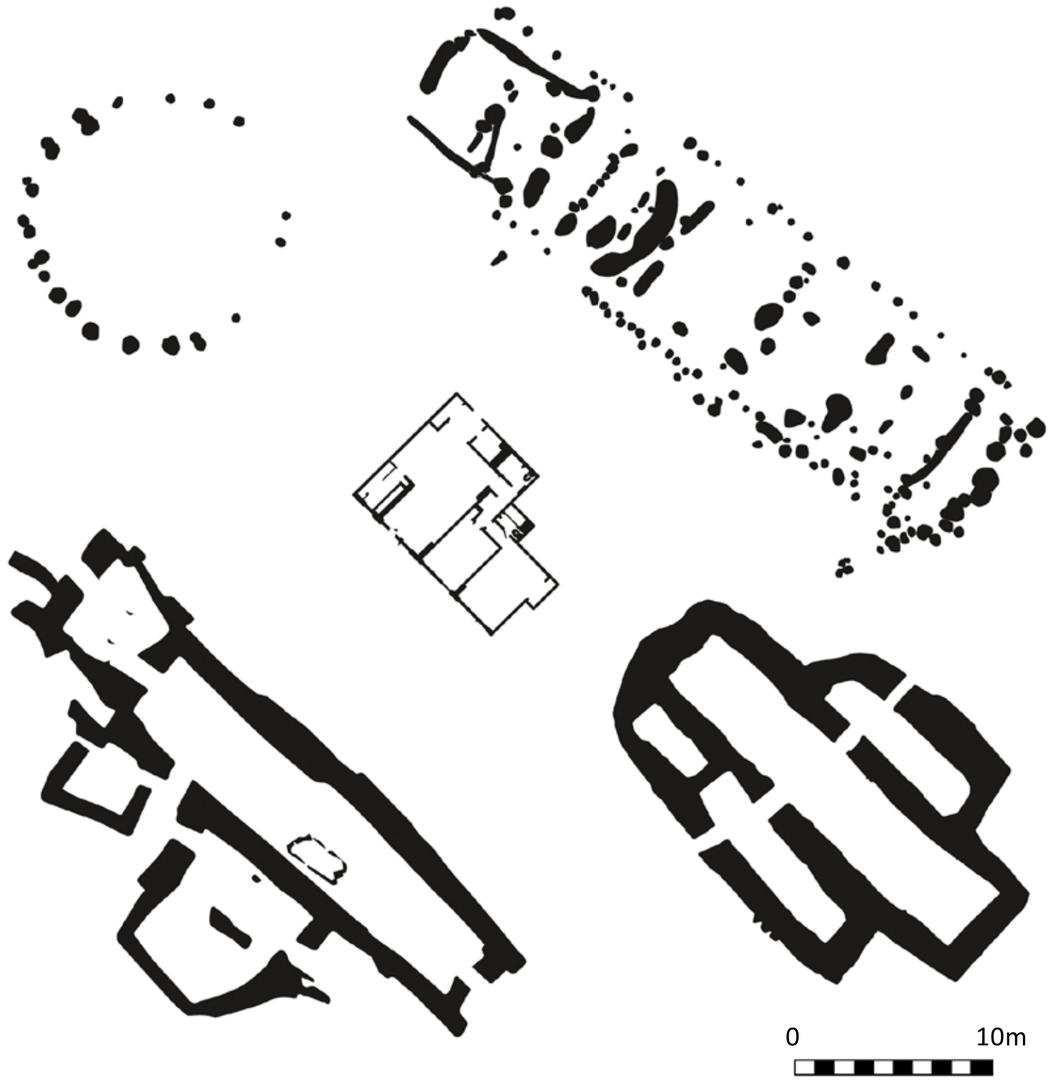
Ask the children to measure and plan the ground floor plan of their house as homework and draw a scale plan or map at 1:100 (where 1cm = 100cm/1m). They should mark different rooms (such as the kitchen), doors and could include big pieces of furniture (like sofas) and important items (such as the TV). Have them compare their plans in groups and list common features. Try to encourage them to think about common architectural occurrences – such as a back door from the kitchen, the front door leading into a hall, or the lounge/living room being the biggest room in the house. You could also measure and plan spaces inside the school, or during school trips.

ACTIVITY 2

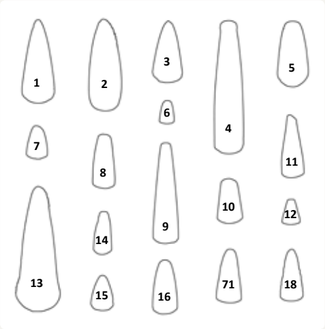
Archaeological floor plans

Look at the plans of the Neolithic timber hall, the Iron Age round house, the Viking longhouse, the nineteenth century black house and the average modern home. Looking at archaeological plans can be confusing, but the marks show where there were stone walls or earthen banks, or postholes and horizontal timber wall-plates that supported upright posts or very closely set uprights. Working in groups, can you work out where the doors in and out of the buildings were? How many compartments were the houses divided into? Are the compartments all the same size? Where were the doors into each compartment? The further back in time we go, the harder it can be to make sense of any common architectural vocabulary.

Timber halls were 'big houses'. But were they houses in the same way that we think of houses today? Did just one family live there? They may have been important to whole communities rather than just the homes of particular families. They may have kept their animals in their houses at night. Can you think of any 'big houses' we build today and what we use them for? We build churches for communities to gather together for religious ceremonies, including important social events such as weddings and funerals. We build community halls for all sorts of reasons – sports and recreation, parties, dances and lectures. And we build schools for teaching! Could these timber halls have been built for a similar purpose?



These comparative plans show a range of different houses: a Neolithic timber hall (above right), an Iron Age timber round house (above left), a Viking longhouse of earth, stone and timber (bottom left), a 19th century blackhouse of earth, stone and timber (bottom right), and a brick-built modern house measuring the current 67.8m² average (centre). ►



This key describes the type of stone used to create each polished stone axehead and where it was found:

1. **an axehead of Alpine jadeitite, found in Wigtownshire**
2. **porphyry, Shetland**
3. **Alpine jadeitite, Perthshire**
4. **micaceous claystone, Angus**
5. **basalt, Jura**
6. **flint, Aberdeenshire**
7. **Antrim porcellanite, Aberdeenshire**
8. **flint, Aberdeenshire**
9. **flint, Orkney**
10. **Creag na Caillich calc-silicate hornfels, Perthshire**
11. **Langdale tuff, Kirkcudbrightshir**
12. **Creag na Caillich calc-silicate hornfels, Perthshire**
13. **porphyritic stone, Shetland**
14. **flint, Berwickshire**
15. **Antrim porcellanite, Aberdeenshire**
16. **gneiss, Aberdeenshire**
17. **Antrim porcellanite, Aberdeenshire**
18. **flint, Fife**

by Matt Ritchie

Polished stone axeheads

You can't chop down trees to make a timber hall without an axe. Ground and polished stone axeheads worked the timber more efficiently than earlier flaked axes. However, some axeheads were never intended to be used for chopping wood. They were very special axeheads, with particular meanings for the people who owned them. The most precious and spectacular were the highly polished axeheads of jadeitite and other rocks from the Alps, nearly 2000 kilometres away. These were brought over to Britain by the first farming groups, and many were already old. Their owners may have believed that they had magical powers to protect them.

> *"They were brought to Britain and Ireland by migrating Neolithic farmers from the northern coast of France, [already] old and treasured heirlooms. These were not utilitarian axeheads, but instead were regarded as sacred and talismanic objects."*
>
> **Alison Sheridan 2016, 235-6.**

Archaeologist Mark Edmonds describes how one was made: "if you have the good fortune to handle one of these axes – the feel in the hand, the balance, the weight, the smoothness – you can tell they have been polished to an extraordinary degree. To give that polish it will have been ground for hour upon hour against stone, then polished with fine sand or silt and water, and then rubbed backwards and forwards in the hand, perhaps with grease and leaves. That's days and days of work. It gives the edge a really sharp and resilient bite, but the polishing also emphasises the shape, allows the control of form, and brings out that extraordinary green and black speckled quality to the stone – it makes it instantly recognisable, and visually very striking. Those things may be just as important as the cutting edge." (extract from *A History of the World in 100 Objects* by Neil MacGregor 2010, 86).

Other non-everyday axeheads are known in Scotland, including large examples with squared-off sides made from tuff from Great Langdale in the Lake District of north-west England. Certain preferred rocks, often quarried from mountains or other special places, were used to make ceremonial (but also everyday) axeheads. In addition to examples from Great Langdale there are others made from porcellanite that was quarried from Tievebulliagh mountain and from Rathlin Island in County Antrim, Northern Ireland; and some made from calc-silicate hornfels, extracted from Creag na Caillich overlooking the west end of Loch Tay. Flint was also used for a few Scottish axeheads. Several exquisite, all-over-polished flint axeheads have been found

near the east coast of Scotland. The source of this flint is unknown, but it could be from eastern England. Similar axeheads are known from Denmark and southern Sweden, but they do not exactly match the British examples, and so they were probably not imported from there.

Only one complete, hafted Neolithic axe has been found in Scotland. This was found in a loch at Shulishader on the Hebridean island of Lewis. The axehead is of porcellanite and had been imported from Northern Ireland. The haft was made of hawthorn or apple-tree wood and the axe dates to around 3300 BC to 3000 BC.

Some axeheads were used for so long that they became shorter as their blade edge was re-sharpened. And when some broke, they were re-used as different tools. One Great Langdale axehead fragment was even made into an arrowhead.

Some axeheads were just for show. Beautiful green jadeitite axeheads came from the Alps and are found all across Europe. They were exchanged over long distances and were never intended to be used to fell trees, but rather to be treasured and admired. They were passed from generation to generation, and were sometimes deliberately left in special places, perhaps as an offering to the spirit realm.
Illustration by Alice Watterson

Grinding and polishing a stone axehead could take a really long time: the most highly polished examples of tough jadeitite would take over 1000 hours to grind and polish. The stones on which the axeheads were ground and polished could be hard, or could be softer: a small axehead from Glenluce in south-west Scotland was found on a small sandstone grinding block. You can try this out if you can get hold of some flint or stone, or you could try to make a miniature polished axehead shape from some chalk (chunky outdoor chalks are the best) or shale pieces (from a garden centre) and some sandpaper. How long does it take you to polish it into shape?

Using Canmore, the online database of archaeological discoveries in Scotland, search for ‘polished axehead’ in the classification field and then click on ‘map’ for a view of all the stone and flint axeheads found in Scotland that have been recorded. Zoom in to the map to see the axeheads found closest to you. Click on the circles to find out more. Maybe this axehead is in your local museum. Look at their website to see if they have an online collection search or go for a visit.

“The beautifully polished and exotic axes from mountain locations could well have been objects of status, perhaps owned and displayed by those in power in society.”

Vicki Cummings 2017, 55.

Think about the special axeheads. Can you think of similar prized items today? Sports cars from factories far away, or hand bags made by an influential designer? Are these items prized by their owner or by the community? Are there any communally owned items that you think are valuable? Is there something that the whole class or school owns that everyone can use? Remember that valuable items need not be ‘worth much’ but can still mean a lot to different people! We don't know whether the precious Alpine stone axeheads were owned by individuals or by the whole community. But some of the other special axeheads could well have been symbols of power owned by important individuals.

Woodland photography

Archaeologist Matt Ritchie describes the process of commissioning the woodland photography found throughout this book. “I asked photographer John MacPherson to explore Scotland’s best examples of native wildwood. I needed photography that captured the spirit of the native woodland and illustrated the different habitats described. But I also wanted him to evoke our different human responses to woodland and the trees within it: open, light and safe; green, vibrant and alive; bare, skeletal and dormant; deep, dark and scary; dead, fallen and rotting; and thick, dense and impenetrable. I needed huge, ancient trees; dry, standing deadwood; and tiny, delicate saplings.”

John visited northern birchwoods in Assynt, the pinewoods of Phuiteachan Forest, the coastal oakwoods of Ardtrilleachan and the coastal hazelwood of Ballahuan, before plunging into the broadleaf woodland of Jock’s Gill in the Clyde Valley. He photographed these woodland habitats at a range of scales: from close up, with individual leaves and trees as the subjects of *habitat portraits*, and from afar, with canopy and woodland as the subjects of *habitat landscapes*.

John used light and composition to frame his subjects, and tried to evoke both the natural beauty of the wildwoods and our spiritual response to it. He took the natural themes of life and growth – and death and decay – and interwove them with inferences of drama and movement, ritual and magic, and of immersion and the woodland edge.

Photographic assignments can be a great way to get children to interact with their woodland, either as creative assignments responding to themes, or as technical challenges, figuring out how to recreate a pre-prepared portfolio of images. They can also create collages or ‘deconstructed photographs’ using lots of photographs to create a bigger image reflecting a theme.

◄ **This artistic reconstruction drawing explores the experience of being inside a cursus monument, with parallel lines of carved timber posts stripped of their bark disappearing into the distance. A polished stone axe is being offered.**

Illustration by Alan Braby, coloured by Ian Kirkwood

The Neolithic Timber Yard

Several generations after the Neolithic farming groups became established, in some parts of southern and central Scotland communities came together to build huge rectangular monuments that ran across and along the landscape. Some of these, such as the mound at Auchenlaich near Stirling, look to be very long versions of the long mounds of the earliest settlers and are called 'bank barrows', while others resemble greatly enlarged versions of the timber mortuary enclosures, constructed of many tree trunks set upright or of earthen banks and ditches. And at the Cleaven Dyke in Perthshire, one monument has both a bank and ditch and a central long narrow mound. Some of the earthen ones run for over a kilometre, while the timber ones are mostly between 100m and 400m long. These long monuments are called *cursūs* (from the Latin word for a race-course; the singular form of this noun is *cursus*).

Timber cursus monuments

At least 29 definite or probable rectilinear timber cursus monuments can be identified in Scotland. Most are located in Angus, on the Upper Forth and around the River Nith, with one outlier in Kilmartin Glen on the west coast. They vary in width from around 14m to 45m, with most measuring between 25m and 35m. Their ends, known as terminals, can be square on plan or rounded, and often comprise larger pits, indicating that larger timber posts were set within them. They were constructed out of oak, with post diameters usually between 0.3m and 0.5m in thickness.

Their construction within the wooded landscape of Scotland would have required considerable effort in terms of human and natural resources. Many trees – in some cases, hundreds – would have needed to be cut and felled to construct a single cursus, and if they were constructed within existing woodland, a long strip would have to be cleared before the monument could be built. Felling a sizeable oak was no mean feat. Chopping around its base

with an axe was one method; others include ring-barking or setting a fire around its base, to weaken the tree and enable it to be pulled over.

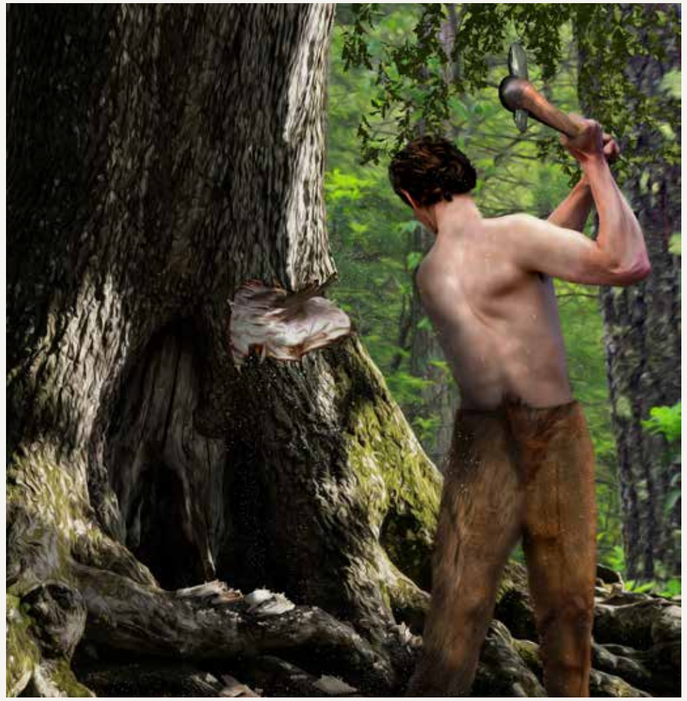
Many timber cursus monuments have one or more internal divisions, which may indicate periodic episodes of construction. Some were added to or rebuilt after their destruction: “They may well have been moving monuments,” write archaeologists Kenny Brophy and Kirsty Millican, “consisting at any one time of fresh posts, weathered timbers and burnt stumps” (2015, 320). Many seem to have been burnt down deliberately. Burning so many upstanding trunks would have involved a massive effort, with kindling wood stacked around their bases. It takes a lot to burn a sturdy tree trunk. It has been suggested that these timber cursus monuments were built to be burnt.

We don’t know exactly what they were or how they were used: perhaps they defined sacred space associated with the dead and the ancestors, and some may have been aligned on significant astronomical events. It’s likely that their use would have involved a procession along them. Their appearance may well have reflected the dynamic Neolithic woodland context of clearing edge (the boundary between), fresh clearfell or burning of trees (to create clearings) and the gradual reclamation of cleared land into the wood by natural regeneration. What we can say for certain is that they will have involved bringing dispersed communities together to work on a massive ceremonial task, and we can assume that there will have been huge communal celebrations and rituals associated with their building and use, culminating in their destruction by fire – an awesome spectacle if carried out at night. This ceremonial burning is reminiscent of our own contemporary practice of building huge bonfires or wicker men and burning them to mark festivals such as Samhain and Beltane.

Measuring trees

Visit your local wood as Neolithic builders. You are going to do some forest mensuration, which means assessing the forest for its timber value. You will assess the trees for the kind of timber they could provide for building a cursus. You will need to take some tree ID kits with you, some rope and measuring tapes and some paper and pencils for noting down measurements. Use the Outdoor Woodland & Learning Scotland *Tree Measuring: connecting trees with the Curriculum for Excellence* resource.

Neolithic lumberjacks would need to be able to identify the trees they wanted. All the timber cursus monuments were made of oak, so try to find some oak trees. If this is not possible, identify what trees you do have and talk about which tree would be best for making two impressive long lines of posts. Look at the growth pattern of the trees; which ones have tall, straight trunks



Felling a Giant illustration by Alice Watterson

and which have trunks that abruptly split or curve into branches? Oak trees that grow in forests must strive upwards to reach the light from the canopy. They have tall and straight trunks, while those that grow out in the open become wide and gnarly.

The posts used in timber cursus monuments were usually between 0.3m and 0.5m in diameter. It is difficult to work out the diameter of a growing tree, so measure the circumference instead and divide by 3 (or by pi if you have calculators). How many trees with a diameter between 0.3m and 0.5m are there in the woods? The timber cursus at Douglasmuir had 152 posts while Inchbare 2 had 232. Can you find between 150 and 250 posts of the right diameter in your forest? Instead of counting every single one you can estimate. Try to estimate how many posts you could win from your woodland or an area

of your woodland. How long and thick would they be? You can estimate their height by turning your back to a tree, bending over and looking between your legs up at the top of a tree. Measure how far you are from the tree when you can see the top, and that's roughly how tall the tree is. Compare the timber yard estimates of different teams.

How heavy are these logs going to be to carry or drag to the site of your timber cursus? Different species of tree don't all weigh the same, as some wood is lighter than others. Use this table to estimate how heavy one of your trees would be, once all the branches were trimmed.

Weight in kilograms of a 1m length of timber of different diameters

Choose the diameter of your tree to find a number. Multiply this number by the length in metres of your tree to find the weight of the tree in kilos.			
SPECIES	0.3m diameter	0.4m diameter	0.5m diameter
Ash	52	91	140
Beech	57	102	160
Birch	53	95	148
Chestnut	59	105	164
Oak	82	145	226
Pine	38	68	106
Spruce	37	64	100
Sycamore	56	98	154

Even without measuring the trees, you can see which type of timber is the heaviest. Why would Neolithic builders use it?

You could also find some fallen logs in the woods and estimate the weight of them using the table (for example, if it is a metre long and 0.3m in diameter and you can tell it's oak, it will be 82kg). Can you think of a way to move the log without lifting it (such as rollers), or to lift it in a team to spread the weight? See if you can move it about 20 metres, and time how long that takes you. If the cursus was 2000 metres (2km) away, how long would it take to get it there? Would you have to take a break?

Line the children up to be a cursus, as two parallel lines of posts facing each other. Ask the children to think about whether the posts still had branches, or had things hanging from them, and to try to show that in their stance. Get one or more children to walk between the posts, re-enacting what they think Neolithic people might have done along the cursus.

Are we still Neolithic?

Before you leave the wood, ask children whether they think contemporary foresters would still assess the wood like they have just done today, like the Neolithic builders did. The answer is yes. Forests and woods are still sources of timber for building and people do forest mensuration this way to work out how much timber they can get from a wood. Some of the methods the class used in the woods may have first been used in the Neolithic.

Back at school, go back to the timber cursus monuments themselves. Discuss with the class if they can think of current examples of important processions (perhaps marking important religious events, or political marches – even the crowd going to the football). Some of these are not marked out and will leave no trace in the ground for future archaeologists to find. What other evidence for these processions would there be?

Are there any other alignments children can think of (such as the road leading to the manor house) or large boundary markers (such as national borders)? How are these marked (perhaps by the road, rows of trees, fence posts, or stone walls)? Are they straight and parallel or winding and with only one line of markers? What would future archaeologists think about some of these?

Are there any structures in your school that have parallel walls or fences where people walk between (such as corridors or pathways)? What are they for? If the school fell down and only the bases of the walls were left, what theories do you think future archaeologists might have about the purpose of the alignments?

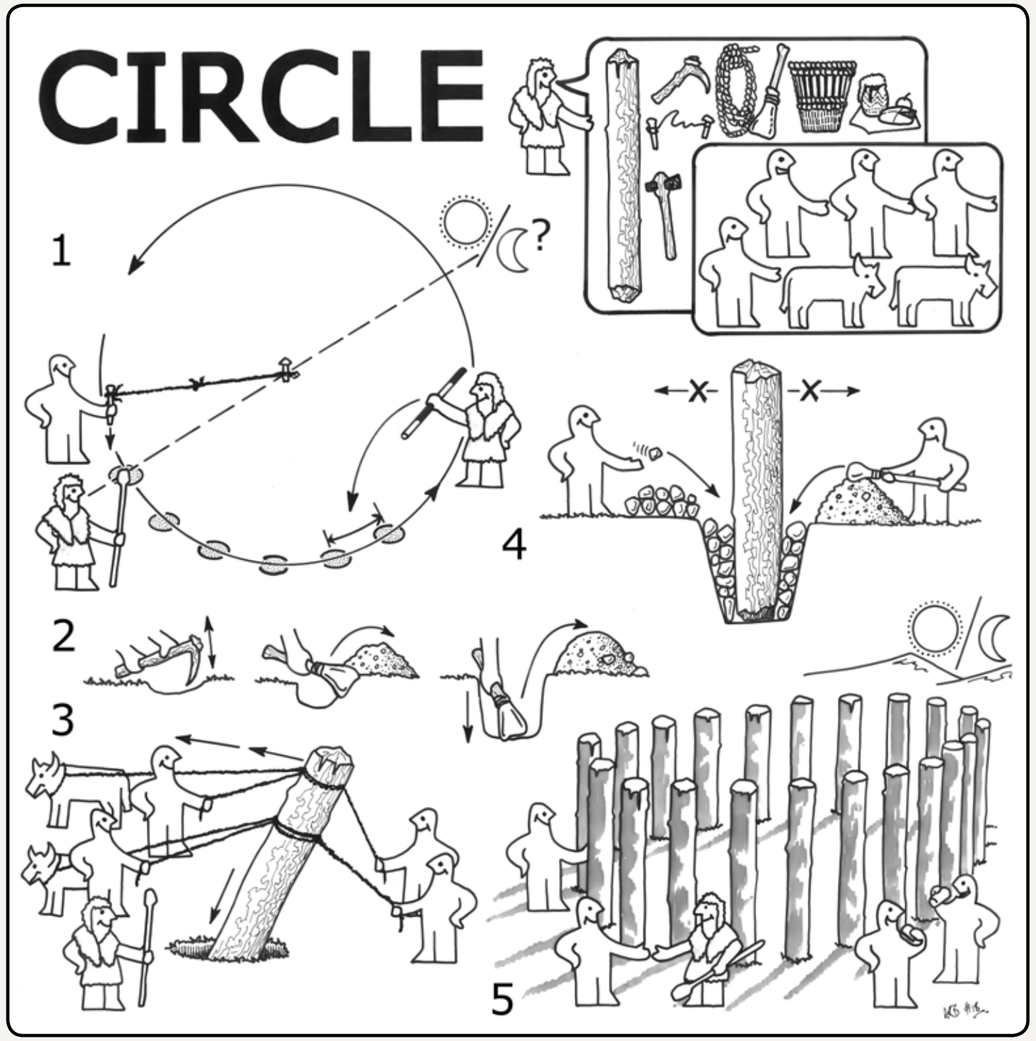
Creating our reconstruction drawings

Archaeologist Matt Ritchie describes the process of creating our supporting reconstruction drawings. “I asked artist Alan Braby to depict the process of excarnation and the timber mortuary structure or ‘Table of Bones’ (see page 25). I asked for a drawing with lots of grisly corpses in various states of decay. I wanted the mortuary structure to be shown as two big split upright timbers with one massive plank or log on the top, similar to the stone portal dolmens of Wales.

In the next reconstruction drawing, I asked Alan to depict the experience of being inside a cursus monument (see page 34). I wanted the view from inside, with posts disappearing into the distance. A prominent polished stone axe and clean architectural lines. Timber posts stripped of bark and carved with Neolithic line decoration.

In the reconstruction drawing opposite, I asked Alan to depict the enclosure of a timber circle. I wanted the timber circle to be scary and decayed, with undressed timbers, some with branches and broken, being enclosed by a henge dug by busy Neolithic builders, showing a real community effort.”

The drawings were then coloured by Ian Kirkwood who added a further layer of vibrant complexity.



The Neolithic Transformed

While many of the monuments of the early Neolithic seem to have involved the process of disposing of the dead, the builders of late Neolithic monuments seem to have been more concerned with bringing people together in in the act of construction, often on an epic scale. Monuments were also increasingly focused on the movements of the sun and moon. The late Neolithic is characterised by the development of ceremonial stone circles, timber circles and earthwork henge monuments.

The Late Neolithic was a time of new social developments and novel practices, monuments and artefacts. Ambitious long-distance travellers from Orkney – farmers who prospered from their herds of cattle, raised on the lush pastures there – visited the magnificent passage tombs in the Boyne Valley of eastern Ireland and returned to build similar passage tombs back home. They also built Scotland's first henge at the Stones of Stenness – a stone circle surrounded by a bank and a ditch, for open-air ceremonies – and they also probably built timber circles. Later on they built the massive henge and stone circle at the Ring of Brodgar. They invented a new style of pottery, featuring decorated flat-based pots called Grooved Ware, a style of pottery that was used for cooking and serving food for over 1000 years. They also built a massive ceremonial centre at Ness of Brodgar. They used a range of peculiarly-shaped stone objects as symbols of power. These included carved stone balls and maceheads. Orcadian Late Neolithic elite society was so influential that people from far and wide travelled there to celebrate the winter solstice with them. They took back ideas, and this is how the practice of building timber and stone circles and of using Grooved Ware pottery spread to other parts of Scotland (and far beyond as well). The Late Neolithic was also a time when large timber enclosures were built on mainland Scotland, probably for large communal gatherings.

The main ceremonial monument of the late Neolithic was the henge. A henge is an enclosure comprising a bank and a ditch, with a central area defined internal ditch enclosed by an external bank. There are usually one or two entrances: breaks in the bank leading to causeways across the ditch. Often, the henge was preceded by a timber circle which was then subsequently enclosed.

Circles and henges

Timber circles are formed by a setting of upright posts. Some comprise single rings, while others comprise multiple concentric rings. There are examples where the timbers are set wide apart, and others where they are clustered tightly together, forming a screen so that only a few people got to see what was inside. They have been found both in isolation and as part of larger ceremonial complexes. Sometimes they were replaced by stone circles – and some timber circles were subsequently enclosed by a henge. A henge is an enclosure comprising a bank and a ditch, with a central area defined internal ditch enclosed by an external bank. There are usually one or two entrances: breaks in the bank leading to causeways across the ditch.

Over eighty timber circles have been recorded in Scotland. They range in size from tiny (only 2.5m in diameter) to enormous (75m in diameter), although the majority fall somewhere in the middle. The posts may have been dressed and carved or painted. They may have been decorated, with votive offerings hanging from them. Or they may have been left unworked, bristling with bark, branches and foliage, or stripped bare like bones or the stones of a stone circle. The archaeological evidence of pits and post holes points to their scale and shape on plan, but gives no clues as to their original appearance. But one remarkable find on the coast of Norfolk proved to be a big surprise: this was a well-preserved waterlogged Bronze Age timber circle that had a huge upside down oak tree in its centre, its sprawling root bowl facing the sky. Careful analysis of the surviving timbers has revealed that the monument was built using 15 to 20 trees to provide a setting of 55 large split oak posts, defining a circle just 7m in diameter. Dendrochronology shows that the site was constructed in 2049 BC. This site, known as Seahenge, goes to show how we need to approach our interpretations of ground plans with an open mind and a bit of imagination.

Some timber (and stone) circles had clear astronomical alignments. At the great earthwork henge monument of Durrington Walls in Wiltshire, part of the Stonehenge complex and constructed around 2500 BC, the 'southern' timber circle comprised six concentric rings of timber, the largest of which had a diameter of 39m. Some of the posts were enormous heavy timbers up to 1m in diameter. It has been estimated that 260 tonnes of timber had been used to construct the southern circle, and this was only one of several large timber circles in and around the monument. The southern circle was aligned on the midwinter solstice sunrise, and it is believed that it formed part of a ceremonial procession on the midwinter solstice from Durrington Walls, along the River Avon and up into Stonehenge.

Could the knots, grains and burrs of a tree trunk have hosted artwork similar to the cups and rings of Neolithic rock art? ►

Clearings and enclosures

There are also much larger Late Neolithic timber structures, massive circular or sub-circular post-built enclosures usually described as palisaded enclosures. Palisaded enclosures comprise huge areas usually measuring around 200m across, enclosed by a wall of timber posts. Each post could be around a metre across, and they have been found set both close together and widely spaced. The spaces in between may have been filled in by wattlework panels. Some have a narrow post-built avenue leading to their entrance. The Hindwell palisaded enclosure in Wales had a perimeter length of 2.3 km and was built from over 1400 oak posts, each weighing about four tonnes. It was built sometime between 2800 BC and 2500 BC.

In Scotland, enclosures have been excavated at Forteviot in Perth and Kinross, at Meldon Bridge in the Scottish Borders and at Dunragit in Dumfries and Galloway. All date to a similar period during the Late Neolithic. They would have required large numbers of people working together to make them, and they could have accommodated huge gatherings for ceremonies to take place. We don't know how densely forested the areas would have been before these enclosures were constructed, but clearly they represent a large area that was tree-free when they were in use, and also the felling of the trees needed to build the enclosures will have made quite a clearance in the forest.

> *"Trees, woodland and structures built from the forest are likely to have been intimately connected with Neolithic communities and their beliefs, embodied with specific meanings and associations."*
>
> **Kirsty Millican, 2016, 161.**

Given that Neolithic people lived in a largely forested environment, trees would have formed an important part of Neolithic people's understanding of the world around them and they may well have featured in their belief systems, perhaps as living beings with powers of their own. As we have seen, people moved within the wildwood creating and exploiting clearings for pasture and the cultivation of crops, and moving on a short distance when the soil was exhausted. Neolithic communities lived in a constantly shifting mosaic of farmed clearings and abandoned clearings, regenerating with woodland growth and all set within huge areas of forest and a landscape of valleys and glens, near and distant mountains, all cut by rivers and streams.

Although they would have been well used to the woodland environment, hunting and travelling with ease, would Neolithic people have been comfortable at being surrounded by so many trees? The forest can be a dangerous place, at times thick and impenetrable, with restricted views and a beguiling monotony. Familiar landscape features such as hills, gullies and rivers are hidden and it would be easy to get lost. The forest edge enclosing the Neolithic home and farm would have been an imposing boundary.

"Enclosure itself defines space and creates a difference, the area within and the area without."

Alex Gibson, 1998, 90.

Were the ceremonial timber enclosures of the Neolithic farmers a response to the feeling of being surrounded by forest, as they worked within their clearings in the wildwood? Were the timber enclosures a conscious demonstration of control, as they felled the trees and converted nature into architecture, creating safe spaces or enclosing dangerous places? Did they subsequently enclose the enclosures, as sacred space became ancient and their meaning became encoded within their symbol system and religion? We may never know for sure. But it is abundantly clear that Neolithic people were skilled at managing the forest, at felling trees and at working timber, and that major building projects involving many trees will have been the occasions for bringing many scattered farming groups together, marking and symbolising a larger communal identity – perhaps a tribal identity. Trees and timber played a major part in both the everyday life of Neolithic farmers, and in their belief system and sense of identity.

Could you build a timber circle?

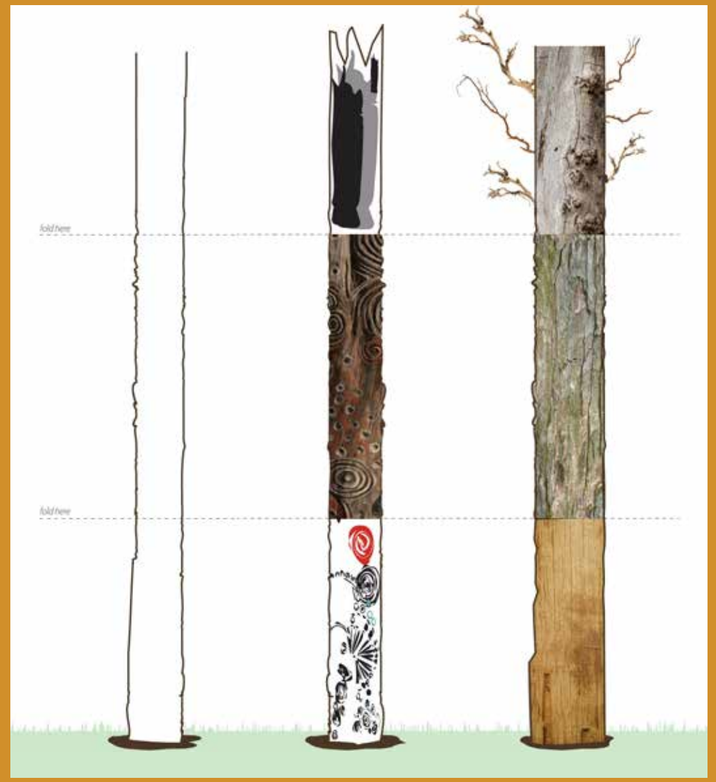
The following activities are designed to help children imagine and plan a timber circle.

ACTIVITY 1

Reimagining a timber circle

We don't know what timber circles looked like above the ground. They could have been neatly trimmed, or left with branches. The timbers could have been intricately carved or painted – or even set upside down with roots in the air! They may have been decorated, with votive offerings hanging from them. Or they may have been left unworked, bristling with bark, branches and foliage, or stripped bare of bark like bones. Draw the empty tree trunk for everyone in the class. Give a different secret instruction slip to each table.

- Burnt and broken
- Roots and branches
- Brashed (with the branches removed)
- Bare (stripped of bark)
- Carved (perhaps with art similar to Neolithic 'rock art')
- Painted and decorated



Ask the children to start by drawing the bases of the posts according to the instruction on their table, fold their paper over to hide what they have drawn and pass their paper onto the next table. Ask them to draw the central section following the same instruction (or a new one), then fold and pass it on.

Discuss the drawings with the class. Although archaeologists have found some burnt timbers – and there is the amazing discovery at Seahenge of the inverted oak with its roots in the air – we don't know for sure what timber circles would have looked like. There is no evidence. All we know is their size, having found their postholes in the ground. In this task everyone may be right!

ACTIVITY 2

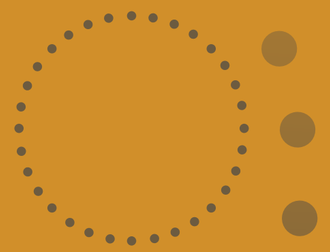
Plan and build a model timber circle

This activity will help the class understand the construction process required to build a timber circle and to imagine what it may have been used for. First you should plan an imaginary timber circle on a piece of A3 paper. Draw the plan as a 1:100 scale model. What is the diameter of your timbers? How far apart are they spaced? What is the diameter of your monument? How many posts will be used? Will you leave a wider gap somewhere for an entrance into the circle? Are the timbers all the same height? Are the timbers decorated with carving, paint or something else? Ask the class to design their own timber circles individually or in groups. Using modelling clay for earth and sticks or cut lengths of dowelling for posts, the children could make and decorate a scale model of their timber circle based on their designs.

ACTIVITY 3

Design a classroom timber circle

Using a blank sheet of A4 paper, ask the children to design their own posts. The class could agree to one type of post (such as carved); or everyone could decide to draw their own. There is no evidence that all the timbers in a timber circle looked the same! Wrap the sheets of paper around sticks or cardboard kitchen rolls to create your posts. You should aim to have 32 posts.



ACTIVITY 4

How do you mark a perfect circle on the ground?

If you have space outside or in a hall, give children a length of rope and some sticks and ask them to work out how to make a plan for a perfect timber circle with 32 posts and measuring 20m in diameter [clue: use one of the sticks as a central pole, tie the rope to it and walk round in a circle with the rope tight, marking the circle with more sticks as you go].

ACTIVITY 5

Building the classroom timber circle

Following the same technique, use the 32 posts from Activity 3 to mark out a smaller timber circle measuring 2m in diameter. Your model will represent a timber circle measuring 20m in diameter at 1:10 (where 1m = 10m).

ACTIVITY 6

What was it used for?

Ask the class to draw their own Neolithic characters from the list below and use them to set up a scene in your model circle. Discuss with the class what sort of activity is going on.

- Shaman (male or female)
- Farmer
- Forester
- Builder
- Woodworker
- Homemaker
- Child
- Injured person
- Old person

Although you may have to ask some leading questions, the aim of this activity is to demonstrate how little we know about the ceremonies that may have taken place within or around the circle. Who is allowed inside the circle and who is not? Everyone or only the shaman(s)? Just the men? Just the women? Nobody but the children (perhaps as part of coming-of-age ceremonies)?

ACTIVITY 7

Estimate how long it would have taken to build

Archaeologists have tried to work out how long these monuments would have taken to build. Now it's your turn.

- Experiments with ground stone and polished flint axeheads has shown that it took five hours to fell an oak tree measuring 0.5m in diameter. How many timbers do you need for your circle? How long would it take one person to cut these down? What if there were ten people working at the same time?
- After this the timber would need to be prepared, with branches cut off or trimmed. How long do you think this would have taken per tree? If ten people were working all at once, how quickly could all the trees be dressed?
- From your own calculations in the woods, how long do you think it would have taken to have moved each timber one kilometre? Larger numbers of people might have been needed at this point to help move the timbers quickly. Work out how quickly this could have been done with 100 people helping. Think about how they could have moved the timber.
- Holes would need to be dug for the post-holes. The time it takes to dig these would depend on the type of soil. Estimate knowing how firm your local soil is – between half an hour and an hour per posthole. How many post-holes do you need? If you have ten people digging at once, how quickly could this bit be done? Remember it could be done while the trees were being felled and dressed.
- Finally, the timbers would need to be slotted into the postholes, lifted until they were vertical, and then packed with stones at the base to keep them upright.

It took one team of experimental archaeologists a week to build a timber circle of eight posts with one central post, including time for carving but not including chopping down the trees, dressing and transporting them. What is your estimate of the time needed to build a timber circle?

Are we still Neolithic?

Many of these timber monuments, the halls, the cursūs and the timber circles, were burnt at the end of their life. Imagine how this might have looked. What time of day do you think they were burned? Do you think any other activities happened at the time of the burning, such as a feast, music, dancing, or even a sacrifice? Are there any events you attend nowadays where similar things happen?

> *"Rituals are a way of affirming and reinforcing shared values. Ritual performances can be designed to highlight and privilege certain performers, but the product of ritual is always unity, not division, and is achieved through collective or communal enactment."*
>
> **Gordon Noble 2006, 234.**

What social rituals do we take part in today? Some may be very obvious (like birthdays) but others less so (such as eating fish on Fridays). Some may have roots in religion, but others may have significance only to individual communities (such as Up-Helly-A) or families (we all have funny traditions). Interestingly, it is clear from laboratory analysis of Neolithic skeletons that fish and shellfish were not consumed by the first farmers. Perhaps their new belief systems prohibited fish, in the same way that some religions today prohibit certain foodstuffs.

Many social rituals take place at set times of year. Neolithic people were farmers, and their building and ceremonial use of the monuments they created may well have taken place at specific times of year. The shortest and the longest days – the winter and spring solstices – were important moments in the year. The dark, cold shortest day of the year could be a time of anxiety: were the days going to get longer again, so that crops could be grown and animals tended? And the longest day, in the height of summer, could be a time for celebration and merriment as people enjoyed the light and warmth. It makes sense that people would want to mark the solstices by ceremonies and rituals.

In spring farmers are very busy birthing animals, ploughing and sowing fields. In late summer and autumn there is the harvest and then animal butchery and food preservation for the winter. So the main times of year when people had time to spend cutting down trees and building monuments was in the early summer and the winter. Digging postholes might be muddier in the early summer, but the ground could be frozen hard in the winter. Going out in the cold to work might be difficult, but at least you'd be working hard to keep you warm. Which time of year would be best, do you think? When do we have some of our biggest social events? Are we still Neolithic?

The coastal oakwood below the Airtrilleachain Slabs beside Loch Etive. ►

Illustrating our characters

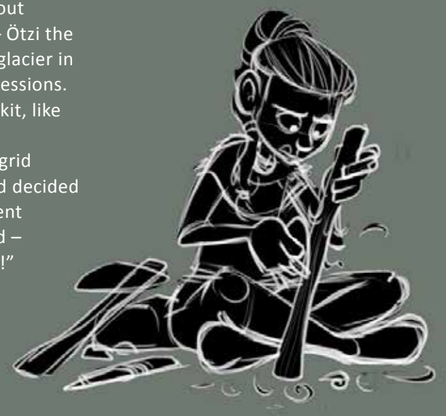
Archaeologist Kim Biddulph describes the process of creating our fantastic Neolithic characters. “We asked artist Alex Leonard to illustrate our cast of colourful characters and help bring the final section to life. It was my job to make sure that everything was historically accurate – from the clothes they wear to their special possessions.

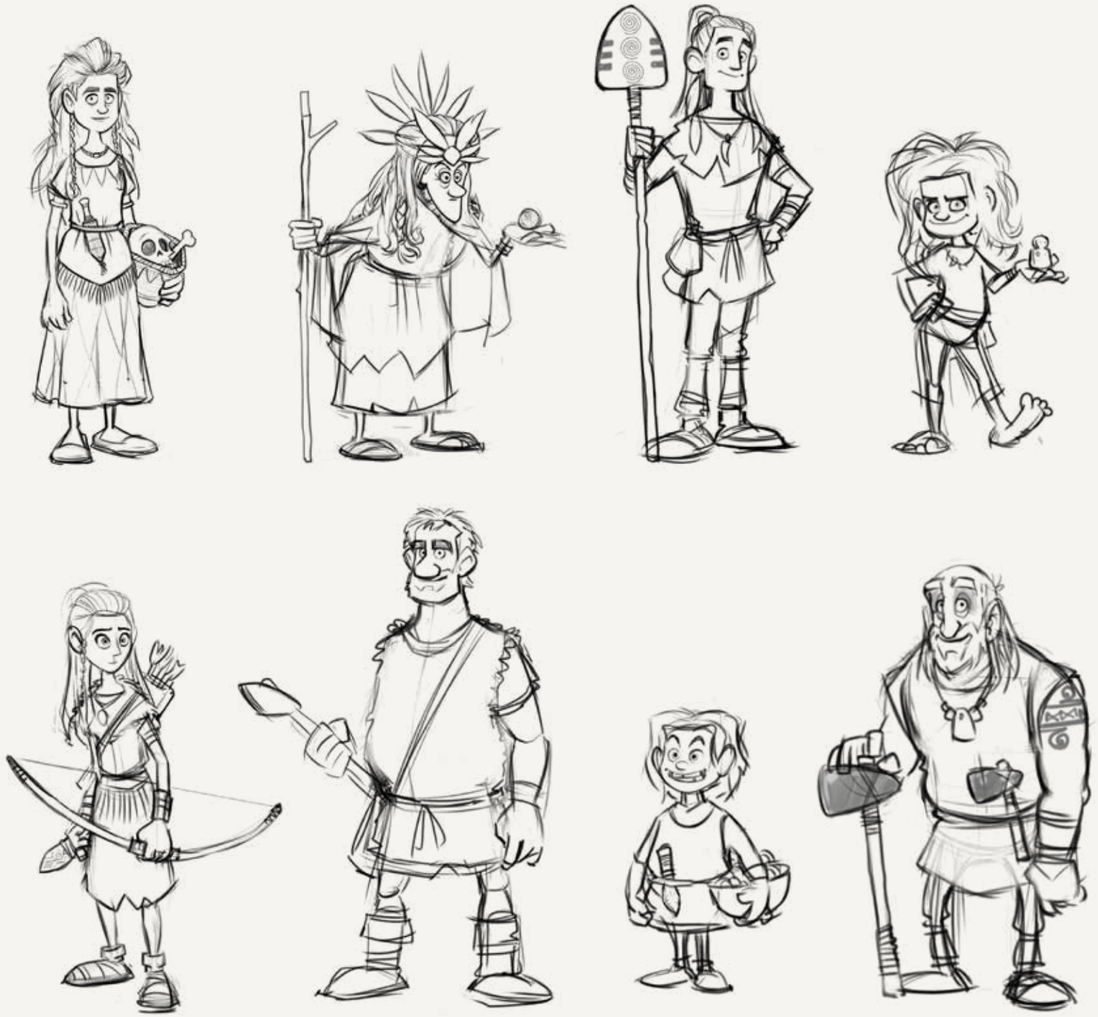
We don’t know a lot about what Neolithic people wore, as clothes don’t often survive from so long ago. But there are a few scraps of fabric, pieces of bags, odd shoes and straw hats that have been found from all over Europe, mainly in watery places like lakes and bogs. Anni’s hat is based on a hat found at the Neolithic lakeside settlement of Wangen-Hinterhorn in Germany.

A couple of very iconic objects were also included. Janna holds the ‘Westray Wife’. It was found at the Late Neolithic settlement of the Links of Noltland on Orkney. It was carved from sandstone and is a very unusual representation of a person or a goddess from Neolithic Britain. We don’t know for sure whether it was a doll for a child, but it could have been.

It’s very difficult to create Neolithic characters without looking to the most famous Neolithic character of all – Ötzi the Iceman. Ötzi was found preserved frozen in an Alpine glacier in 1991 along with a full set of clothes and personal possessions. Several of our characters wear or carry items from his kit, like Winta’s knife and sheath and Goraid’s shoes.

I used the stories written by Gavin McGregor and Ingrid Shearer as the basis for the character descriptions, and decided to highlight these characters to show a range of different Neolithic people, both male and female, young and old – and obviously couldn’t resist including Boudin the dog!”





The Neolithic Mind

How people explain where they came from and who they are, and how they make sense of the world can be very powerful. Origin myths are found in many societies – these are accounts of how the world, spirits, deities and people (and sometimes things) were created. They often have structures or hierarchies to those who inhabit those worlds. Some belief systems will have reference to underworlds, sky realms and dream worlds through which only some can travel. Travel between the everyday world and these other realms may be possible by supernatural beings, special people such as shamans or the dead, or special animals or birds. People could use repetitive chanting or drumming, or could consume drugs, to help them to go to these *otherlands* and to communicate with the beings who inhabit them. In some societies, these structures of belief may mirror social or political hierarchies.

What is clear is that Neolithic people had belief systems, and they expressed these in various ways: through rituals and burial rites, through their monuments and the way they organised the space where they lived, through the use of special objects and through use of symbols.

With the Neolithic there would have been new stories of origins and structures; powerful stories that may have been told at special events or at locations such as the timber halls. Stories may have reinforced who was part of the community and who wasn't, what was safe and what wasn't, and what was appropriate to eat and what was taboo. These stories and traditions may also have incorporated, maintained and shared other forms of practical knowledge. For example, we know many societies use the changing seasons and movements of sun, moon and stars to track time and to help decide when to sow and to reap crops. As part of these there may have been an explanation of what the seasons or celestial bodies represented – were they gods and goddesses, spirits or demons? Did they have a story of how they were born and interact through the year? So perhaps consider what a Neolithic story almanac would contain.

Different Neolithics

As we have seen, the way that farming became established as a way of life in Scotland did not just involve the arrival of immigrant farmers, coming from different parts of northern France to different parts of Scotland. Assuming that these immigrants did not wipe out the indigenous Mesolithic hunter-gatherer-fisher groups, either through violence or by accidentally introducing diseases to which they had no resistance, then the indigenous groups must, sooner or later, have decided to adopt this new, alien way of living, complete with its strange new technology of pottery making and its new ways of making stone tools. Perhaps people thought, rightly or wrongly, that growing your own food made for a more reliable, regular source of food than hunting, fishing or foraging wild foods, following the natural pattern of seasonal availability. Perhaps they were attracted to the new settlers. Some may even have rejected the new lifestyle, choosing to stick to their reliance on wild foods. And with the farming groups, some may have fared better than others; people will have had to adjust to their different and changing environments.

So in the early Neolithic we can envisage several different scenarios about the balance of the Neolithic 'cultural package' and whether a social group was adopting, introducing or even resisting elements of farming practices.

The Full Neolithic 'cultural package'

The immigrant farmers were experienced in growing crops and managing domesticated animals, and they were able to adapt to their new homes well. They sought out good agricultural land and established their large halls there, clearing the woodland to make space for their cultivation plots and to provide timber for building. They may have taken their animals away to summer pastures, leaving others behind to tend the crops. They will have hunted and foraged, as well as growing crops and keeping animals. They brought their skills of making pottery. They established networks of contacts linking dispersed farming communities. They went to special places to quarry stone for making axeheads, which were then exchanged around their contact networks, along with other objects, ideas and people. Valued materials such as pitchstone from the Island of Arran would circulate far from their source along these networks, and different groups would support each other, and sometimes fight with each other.

The wind makes the canopy come alive at the northern birchwood of Drumbeg. ►

Many of these farmers flourished and some were able to build up food surpluses. They grew more numerous and spread into other areas.

- **Lifestyle:** active, plentiful food, emphasis on display and ornamentation of objects, well-defined social structures and norms; origin stories that may have referred to their Continental past.
- **Mindset:** strict rules of what happens when, bound to rhythms of a Neolithic story almanac, forest exists to be cleared, dominated and used.

Old Traditions with New Objects

Some groups of people may have continued to live as hunter-gatherer-fishers. As such they may have moved through woodlands more often, seasonally following animals such as red deer and using the mature woodlands in certain ways. Over several generations they may have been in contact with their farming neighbours, perhaps exchanging the new forms of object, but they may have resisted adopting new ways of thinking. A stray sheep, or cattle who wandered off into the woodland, might be regarded as fair game for hunting and eating.

- **Lifestyle:** seasonal movement, rich in story and song going back thousands of years, objects largely functional.
- **Mindset:** part of forest, seek to show respect to animals and plants who share, curiosity about new ways but resistant to change.

Forest Herders

Some groups may have specialized in tending herds of animals in a woodland context, perhaps concentrating on sheep and goats or cattle in woodland pasture. They lived closely with the woodland and did little to actively modify it, using natural clearings and more open ground alongside rivers. As herds grew, gradually the grazing changed the woodland, developing a more open patch work of grazed clearings.

- **Lifestyle:** live closely with their animal herds, prepared to move, so lighter tent like structure used in woodland, some forest gardens which they travel between seasonally.
- **Mindset:** forest is source of materials, some ancient spirits in woodlands which need to be avoided and appeased, people and community compared to structures and habits of the animals they tend.

Foraging Farmers

Some groups of early farmers may have tried to cultivate crops and tend animals but through misfortune struggled to sustain their community over several generations. Life was hard at times and people increasingly relied on the forest for foraging and hunting. The forest was seen as dangerous, a place of malevolent spirits and occupied by other groups of people with strange practices. Increasingly, these communities put more energy into building monuments and undertaking rituals and ceremonies to try and change their fortunes.

- **Lifestyle:** active, limited food, emphasis on display and ornamentation of objects but find it difficult to access materials, social structures being challenged by those responsible for ritual and ceremony.
- **Mindset:** responding to circumstances, bound to rhythms of death and ritual, forest dangerous, scared and worried.

Thinking Neolithic

This story telling activity is designed to get pupils to begin thinking about how Neolithic mindset(s) may have differed, and how these different mindsets would affect the nature and outcomes of a story. We have developed several story scenarios, which can be developed further with pupils. Students can be put into smaller groups who each explore the story from a different Neolithic mindset. The stories are designed to encourage writing, with each student developing their own stories about what may happen next. Subsequent classroom discussion can explore the different Neolithic mindsets, and how these may have affected why things happened and / or what happens next. Our Neolithic characters have also been illustrated, with more background detail to help the children, interlinking between different characters and the archaeological evidence.

The pupils can be brought together (perhaps in an outdoor learning context, or around a camp fire) to tell or perform their different versions of stories. Wider discussion about differences between the Neolithic mindsets can extend from there. There is an opportunity to then expand into secondary questions such as:

- How do they contrast with our mindsets and beliefs?
- How do our relationships to forests and the environments differ?
- How might these relationships change in the future?

The Journey

This story is an introduction to the idea that people in the past may have had different ways of thinking about family, community, journeys, different attitudes to death and differences in belief. Some discussion points are provided below.

A young girl and boy are travelling with their mother and uncle. They carry a decorated woven bag within which are the bones of their grandmother. They are travelling in a dugout canoe – a boat hewn out of a single vast oak trunk, and decorated with the symbols of their kin group. This is the children's first long journey – they all take turns to help paddle the heavy canoe. They hug the shoreline before turning into the calmer waters of the river estuary. They have never met their highland kinfolk; they are excited, and also a little afraid. As the little group travel on, the landscape around them changes. The fresh salt air and big open skies of the coast soften into alders and willows fringing the river banks. The river narrows and the water flows faster as they move upstream. Their mother has made this journey before and she tells them of the settlements, sacred spaces, forests and mountains as they pass.

As they journey through the changing landscape, their mother and her brother recount the story of how their parents met at a great feast. Their grandmother was from the highlands and their grandfather was from the coast. Some members of her new tribe viewed her with suspicion when she arrived but her own kin were skilled hunters and this helped her gain the respect of her new community.

What happens next as their journey continues into the territories of different Neolithic groups?

From the perspective of one of the four **different Neolithics**, try to develop your story to explore:

- Why do you think they need to make this journey?
- Why might the bones be powerful or dangerous?
- What do you think happened at the feast/celebration?
- What kind of designs and motifs might have identified each kin group?
- How long do you think it might take to travel and how else might they get there?
- Who else might they meet on their journey?
- What will happen when they reach their grandmothers kinfolk?
- What kind of rituals do you think the family might need to observe when they reach their grandmothers kin?

Name	Winta
Age	Winta has lived through 28 winters.
Skill set	Winta is strong and helps her brother pilot the logboat. She specialises in making decorative fabric for clothes and bags. She has to get the fibres from plants such as nettles and flax, spin them, dye them and then weave or net them. It's a long process but she takes pride in the beautiful and hard-wearing fabrics she makes.
Most treasured possession	Currently, the bones of her own mother in a decorated bag she made herself. Her mother died in the spring and now has to be buried in the special stone house in her childhood home. Her mother's body was left out on the bone table over the summer until her bones were picked clean, as is the custom. Winta is taking her children to her childhood home for the first time so they can say their goodbyes to their grandmother. They are seven and five. Their father died in a hunting accident several years ago.
Favourite food	Birch sap that you can gather in the spring when the tree starts to wake up after winter, but before the leaves start to grow.
Favourite time of year	The spring, when the birch sap is rising, but this year she spent the spring nursing her mother, who then died. The spring may be a sad time now.
Secret fear	Winta is afraid of tipping out of the logboat, but Goraid assures her the boat is safe.
Special animal/tree	The silver birch because its bark can be used to make useful and beautiful containers, and it makes the delicious sap she loves in the spring! The leaves are also very good for washing with if you crush them with water.

Name	Sharmaarke
Age	No-one really knows, but the village children say she's seen over seventy winters!
Skill set	Sharmaarke is the spirit-talker of the highland peoples, the link between the world of the living and the world of the spirits. She speaks to the dead to determine what should happen to their bodies and to help them intercede in the affairs of the living. She has a fierce appearance, often wearing animal skins and face paint.
Most treasured possession	The carved stone ball that she made to prove her knowledge of the spirit world to the spirit-talker she learned from.
Favourite food	Sharmaarke gets given food by the village as she is too busy with the spirit world to grow and make her own, or to tend the animals. She is most appreciative when the villagers bring her honeycomb dripping with honey from a beehive.
Favourite time of year	The winter, when the dead are closer to the living and when she presides over the winter festival of the dead and the living.
Secret fear	That the dead will stop talking to her.
Special animal/tree	The eagle – it flies so high it disappears into the upper world of the spirits, and then returns to the living world. The salmon, too, is dear to Sharmaarke, as it travels into the lower world of the dead and then returns to the world of the living. Sharmaarke travels to those places too and returns.

Name	Goraid
Age	Goraid has lived through 24 winters.
Skill set	Goraid is Winta's brother. He is a woodworker and specialises in making logboats to sail on rivers and sheltered coasts.
Most treasured possession	The decorated paddles they are using to propel the boat. The intricate carving of spirals and circles represents the movements of water, the moon and sun, all of which are important when travelling on water.
Favourite food	Even though he spends a lot of time on the river, he does not eat fish. Nobody in the villages eats fish. Goraid most enjoys the winter festival when the cattle are slaughtered and everyone gets to eat fresh roasted meat.
Favourite time of year	The winter when he gets to eat well at the festival of the dead and the living.
Secret fear	He is younger than his sister and yet to marry, so he takes some care about his appearance. He is afraid that he will not find a woman to marry and spends a lot of time travelling on his boat to different villages to meet new people.
Special animal/tree	The oak. It grows straight, tall and strong and is the best tree for making boats and building the bone tables and halls where the villagers sometimes gather.

The Axe

This story is an introduction to how certain objects had particular significance in the Neolithic. Pupils should learn that the type of material used and that the making of the axehead may have been just as important as what it was used for. They should also learn that as axeheads were moved by people long distances, and that obtaining and keeping access to the exchange of axes may have helped created social status – and to think about who, how and why different people could access them.

The stone is black as night, flecked with white stars and sharp as a wolf's teeth. Nettle rope binds the axehead tightly to a sleek handle of hawthorn wood. Laki, the best toolmaker, had made the handle, sanding and smoothing the hard hawthorn till it shone, before sealing with beeswax. It is so beautiful! The children carefully pass it around the circle, quietly oohing and aahing. Although they are well out of earshot of the adults, they know they will be in BIG trouble if caught. Laki had warned them axes can bite! Ari's big brother had travelled with the small group to collect the axe. It was quarried from rocks, high up a mountainside, and it rained there a lot, Ari's brother had said. He himself had not seen the mountain, but the people they had traded the axe with said it came from a place high in the grey clouds. From there, the rough stones were taken to a village near the coast where the stone specialists began the long process of shaping and grinding and polishing… and polishing… and more polishing, until finally the silky smooth new axe emerged. The round trip had taken them almost two moons and they had crossed the southern sea and traded sealskins, eagle talons and pitchstone for the precious axe.

"We should take it back now, before someone finds out" said Sena. Janna huffed. "Why? We have it now, and everyone's gone down to the beach, they won't be back for ages". Early that morning, the children had awoken to a commotion. A pod of Orca had been spotted in the bay and all the adults and older children had been pressed into service, hurrying down to the beach carrying boats, ropes, spears and big hunting knives. A message had been sent to their kinfolk at the Ness, they would need at least ten big boats and many more hunters than their little village could muster.

The dangers were great, but so were the rewards – tasty whale meat and oil to light their lamps for months to come. They would launch the boats and paddle far out into the bay, harrying and funnelling the whales towards the sandbanks where, exhausted, they would drown in the shallow waters.

Normally the children would have eagerly watched the spectacle, but in the chaos, Janna and her small band had seized their chance and slipped into the main stone house. They had smuggled the axe out right from under the nose of Tanta. The old lumberjack had been left in charge and was snoozing by the fire, right next to the box containing the axe! When they had got clear of the village and safely along the path to the woods they had collapsed in a fit of nervous giggles. They had done it!

6000 years later…

"That's tea break Sandy, are you stopping or what?" It was hot and the midges were starting to swarm in hungry black clouds over the heather. Sandy swatted a few away from her arms, set her trowel down and stood up. Down the hill she could see the others slowly emerging from their trenches around the low stone walls of the ancient Neolithic village and heading towards the archaeological site hut, looking forward to a cuppa and a catch up. Halfway out of the trench, Sandy stops and turns. A glimpse of a very black, very smooth stone catches her eye.

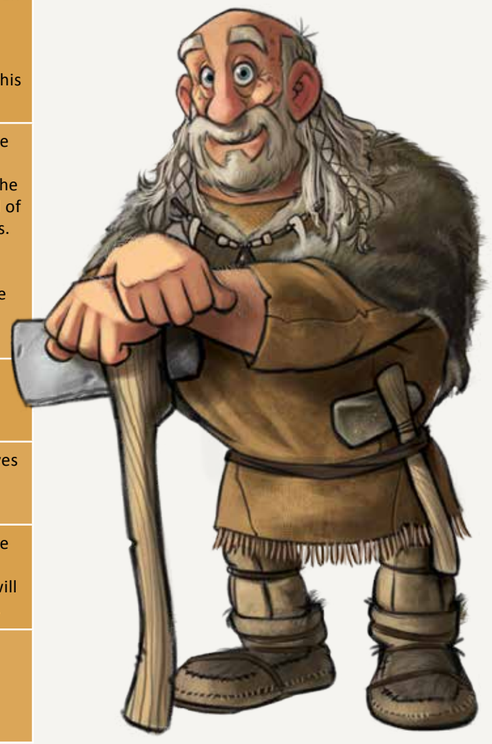
What happened to the children and the axe?

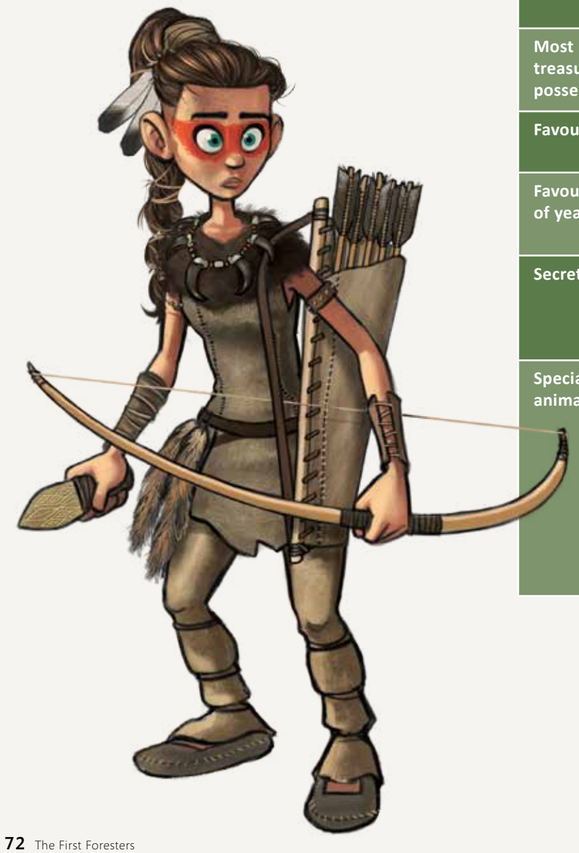
From the perspective of one of the four **different Neolithics**, try to develop your story to explore:

- What does the axe mean to the community?
- What parts of the axe will survive?
- What kind of story might the archaeologist tell about the axe and how it got there?

Name	Janna
Age	Janna has lived through ten winters.
Skill set	Janna is the ringleader of a bunch of children, prone to getting everyone in trouble but adored by the younger children. Never to be seen wearing shoes or with tidy hair, she hangs around watching Laki work a lot and trying to do woodwork herself. When she can't get away from it, she has to weed the fields, milk the cows and keep an eye on the small herds of sheep on the hills.
Most treasured possession	A little stone statue she has had since she was very tiny that her father made for her. She will keep it to give to her children.
Favourite food	Though everyone else in the village loves the taste of whale meat and blubber they get every time a whale is successfully hunted, Janna prefers the mutton they get the rest of the time.
Favourite time of year	The summer when the sun is hot, before the hard work of the harvest.
Secret fear	Janna is afraid of the eagles that threaten to take away the lambs when they're born.
Special animal/tree	Janna loves Ulf, the dog who helps her guard the sheep when she is with the herd. Sometimes she thinks he understands her when she talks to him.

Name	Tanta
Age	He is old, and has kept track of all of his sixty winters.
Skill set	Tanta used to be a lumberjack. Although he has kept track of his age he has lost track of how many trees he has chopped down in his long life. He used to chop down trees he could just wrap his arms round with his trusty polished stone axe, then brash them by taking off all the side branches, and then give them to the other villagers to move to where they were needed. He doesn't chop down trees anymore; his hands are calloused and his face lined with age but his shoulders are still strong.
Most treasured possession	His old polished stone axe that never once broke in all the years he was using it. But Tanta also loves the greenstone axehead he was given by the village chief as a symbol of the importance of his work over the years. Tanta has never and would never use the greenstone axehead. It was traded from over the sea and up into the source of the great river in the high mountains in the east.
Favourite food	Tanta loves the whale meat soup that's made for him when the whale hunters have come back successful.
Favourite time of year	He loves the early summer when the leaves on the trees are out and there is shade from the sun.
Secret fear	Though he is old he is not afraid to die. He has helped make the monuments to the sun, moon and ancestors and knows he will be accepted into their ranks with honour.
Special animal/tree	He has an affinity with the oak, the tree that is used to make the timber circles made to honour the sun, moon and ancestors.





Name	Laki
Age	Laki has lived through 18 winters.
Skill set	She is a toolmaker, with exceptional skill at working with wood. She has steady hands and gaze, and is proud of her work. She makes handles for knives, axes, and sickles, and she makes bows and arrows. She looks a bit tidier than Janna, with her hair up.
Most treasured possession	Her decorated knife that she uses to shape the wood she gets into handles and tools.
Favourite food	Laki loves cloudberry cakes mashed with animal fat.
Favourite time of year	Autumn when the trees have given their fruit or nuts and she gets to chop down limbs to make more tools.
Secret fear	Laki is worried that the elm trees are getting sick like the ones down south did. Many of them have little mushrooms growing on them.
Special animal/tree	The ash tree is Laki's favourite tree. It produces strong but easily carved wood, when it is green. It is very good for the handles of axes as it doesn't break when the axe is being used. The younger branches of ash are also light and straight and good for arrows. Laki also likes the elm tree, which gives good wood for bows. It can bend well to shoot the arrows, and not break.

Name	Petru
Age	Petru has lived through 27 winters.
Skill set	Petru is an axe-polisher. He gets the roughed out axes from the mountains and spends every day polishing them until they are smooth. He works on a huge stone polissoir every day. It bears the grooves and depressions from hundreds of stone axes being polished on it day after day for many generations. For Petru it is a link to the ancestors. He is very proud that his polished axes make easy work of felling trees. He is getting weak eyes from concentrating on his work so much. He likes to keep his beard and hair short or it gets in his way.
Most treasured possession	Not any axe that he makes, because these all get passed on to those who need them in exchange for whatever Petru needs. Petru's most treasured possession is the light green stone pendant he wears. It was given to him by his father – it is always passed down to the eldest child. It came with his family from their homeland over the sea, where the great stone rows were built by the ancients.
Favourite food	Petru gets very hungry during the day so any food is good. If he had to choose it would be bread and barley stew with dumplings.
Favourite time of year	The late spring when it's not too cold and not too hot to work all day outside.
Secret fear	Petru is afraid that, one day, someone will tell him his polished axes are no good any more.
Special animal/tree	There is one great oak tree near to his village on the edge of a field that he likes to take his daughter to in the summertime and watch her climb in the branches. Because it is not in a forest it has grown wide and gnarly instead of tall and straight. He would never want this tree to be chopped down by one of his axes.

The Table of Bones

This story encourages conversation about the spiritual nature of Neolithic life and how for some groups there may have been beliefs in tree and animal spirits. These natural spirits – and spirits of the ancestors – may have been thought to have had influence in the world of the living. The world of the living and the realm of the dead may have been much closer than they are today, and perhaps much more familiar.

Uri and Anni live by the great river at the bottom of a steep sided glen. Five generations ago the river spirit had brought their ancestors further inland closer to the mountains. Pine and birch forests line the side of the glen and spread up the sides of the mountain. In the forests are deer, wild boar, wolves and bear. The last of the great wild cattle [aurochs] were distant memories and the last of the woodland people spoke of spirits of the giant deer whose roar could still be heard when storms raged. There are other things in the forest too. Some of the older trees are said to move and whisper – they shudder fearfully when a stone axe is too close. But some trees had to been taken to build the Great Timber Hall and the Table of Bones where the bodies of some of the group's dead were kept. But not all the communities' dead are allowed in these structures, and some are said to still wander, looking for a way to enter.

It is a warm day for the time of year – the very last breath of summer had kept Uri and Anni warm as they picked their way along the path. As they began to climb higher into the dense woody slopes they felt the chill of the seasons turning. Uri pulled his cloak tighter. The air is filled with the musky smells of forest, the meaty autumn mushrooms and sweet scents forest berries. They could see the leaves beginning to turn to gold.

Tonight there will be a big feast in the Great Timber Hall by the river side to celebrate the harvest. They have been sent to the edge of the forest to gather more berries and nuts, and herbs to flavour the big stew. They know the edge of the forest well – they have explored the paths and clearings many times – but they have never ventured deeper into the woods without the adults. They are busy discussing what will happen at the feast tonight. Suddenly, their dog Boudin begins to growl and they hear leaves rustling up ahead ….

What happens next?

From the perspective of one of the four **different Neolithics**, try to develop your story to explore:

- What do Uri and Anni smell and then see?
- Are they scared?
- What will Uri and Anni do?
- What happens that evening in the Great Timber Hall?

Name	Uri
Age	Uri has lived through seven winters.
Skill set	Uri is good at identifying a hawthorn tree with its useful berries from a distance. He and his sister, Anni, gather them as well as other berries and nuts. The haw berries need to be cooked for quite a while before they are safe to eat, but then they are very sweet.
Most treasured possession	Uri loves the flint knife he made with his uncle's help. He had to not only knap the flint but also make the pine pitch glue and carve the handle from ash.
Favourite food	Hawberry cakes that keep them going through the winter and early spring before the first edible plants are growing. Although roasted hazelnuts are a close second.
Favourite time of year	The autumn, when the trees and bushes are laden with tasty treats.
Secret fear	Uri fears the forest, and the wild animals that live in there. Sometimes the wolves or bears come out to steal food from the people, and people get hurt. He and Anni always stay within sight of the edge of the forest when they go gathering.
Special animal/tree	Uri likes the hawthorn tree, of course, but also the hazel for the yummy nuts, which are good roasted.

Name	Anni
Age	Anni has lived through five winters. She is Uri's younger sister.
Skill set	Anni is really good at getting berries off bramble, hawthorn and blackthorn without hurting herself on the prickles.
Most treasured possession	Anni wears thick sheepskins to keep her warm and dry and she loves them, but her hat is very itchy. Still, it keeps the rain from dripping on her face.
Favourite food	She loves the wild strawberries that grow close to the ground in the woods. They are so little there's no point taking them back for the feast so Anni picks them as a treat for herself for doing so much hard work gathering fruits and nuts for everyone else.
Favourite time of year	Anni loves the feasts, when everyone gets together and eats lovely food, tells stories, sings songs and dances, and wears their best clothes. They happen at different times in the year so every season has its own special time.
Secret fear	Anni is scared of the noises she sometimes hears in the deep forest, but Uri is older and will keep her safe.
Special animal/tree	Anni loves their dog Boudin, who is very gentle with her but will growl at anyone being mean to her.

Name	Boudin
Age	Uri and Anni have had Boudin for four years.
Skill set	Boudin is a dog and so is very good at guarding and protecting the children. He has a great nose and can smell other animals, so Uri keeps an eye on him in case he gets restless. Uri and Anni's parents are training Boudin to help with hunting as well.
Most treasured possession	Boudin really loves Uri and Anni's father's shoes and will chew them whenever he takes them off if given half a chance.
Favourite food	He really likes the pigs ears that sometimes get thrown to him at slaughter time.
Favourite time of year	Boudin just loves being with the children so any time of year is his favourite.
Secret fear	Boudin doesn't fear much. He smells danger in the woods but has not yet seen anything emerge from the trees to cause him fear. He thinks hedgehogs are a bit strange.
Special animal/tree	There's a willow tree by the river that has branches hanging down and Boudin used to love jumping up to snap at the leaves when he was a puppy.

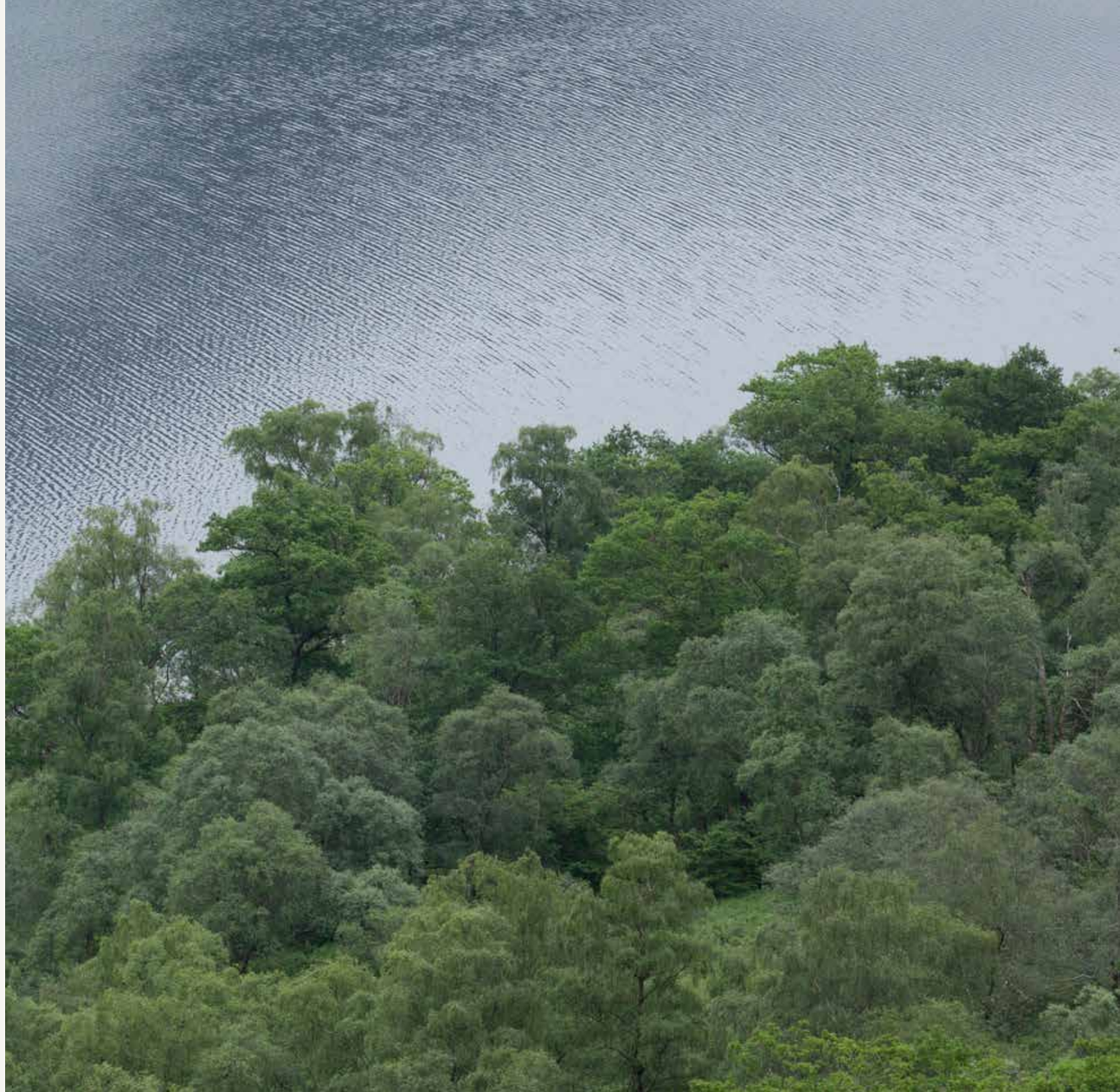
The forest as ancestor

Trees are potent symbols of natural lifecycles: from tiny seeds and cones, to thin delicate saplings in youth and mighty gnarled trunks in old age. Their vibrant green leaves in spring lead to autumnal fall and the bare bones of the branches in winter. But trees are also potent symbols of death and decay: the fallen deadwood slowly rotting in the forest, covered in fungus and lichen and full of insect life; and the naked skeletal forms of standing deadwood, stripped of bark like the bare bones of a body. Cutting down a tree can be a symbol of sacrifice and renewal, deliberately killing an aged tree to be reshaped and reborn as new timber.

In many cultures, significant trees are individually identified. Myths and legends attach themselves to specific trees, which may also be named and personalised. If trees in the Neolithic were imbued with spirituality and importance, cutting them down and planting them in pits, rows and rings (perhaps even upside down) would have been an act of great significance. Creating monumental timber architecture would have required communities to work together and, perhaps most importantly, to think alike. The monuments would have long outlasted their builders and would have become testament to their lives, a symbol for their descendants of their own communal ancestors and their own human lifecycles.

> *"Monuments were places where people and material came together at crucial or critical points in time. They enabled people to work together on a project, employ powerful symbol[ogy]… and renegotiate their place in the world, be that the cosmological world or the very real social networks of early Neolithic society."*
>
> **Vicki Cummings, 2017, 137.**

The archaeologist Gordon Noble explains further: "early Neolithic Scotland was a place and time of change, where new lifestyles associated with the new technologies of farming were rapidly adopted. Traditions of architecture emerged that utilised the natural symbols and materials of the landscape as stone, wood and earth were manipulated to create great monuments to the past. These were places where social relations were structured and renewed" (2006, 235).



Looking down onto the coastal oakwood canopy beside Loch Etive. Oak and birch are dominant, with hazels in the canopy gaps forming an understorey. ►

Are we still Neolithic?

Using the *Tree Stories* resource to set the scene, explore the children's own local knowledge of their trees. Someone will have a favourite tree and a story that goes with it. You could identify a tree local to the school – a forest ancestor – and explore the history that it will have lived through.

While describing the timber halls, cursūs, circles and henges of the Neolithic the woodland environment has been variously described as a wildwood (to be tamed or feared), a timber resource (to be used or controlled), a place of ancient mystery (to be worshipped and respected) and a familiar natural world (in which to live, hunt and gather). How do the children see the forests and woods of Scotland? Perhaps a little bit of everything?

Maybe we are still Neolithic…

Further reading

Farmers, temples and tombs: Scotland in the Neolithic and Early Bronze Age (Gordon Barclay 1998). A gentle introduction to the Neolithic.

The Neolithic of Britain and Ireland (Vicki Cummings 2017). A comprehensive and clearly structured account of the Neolithic.

The Boy with the Bronze Axe (Kathleen Fidler 1968). A children's classic set in the village of Skara Brae at the end of the Neolithic.

Outdoor Archaeological Learning (Forestry Commission Scotland 2017).

The Tale of the Axe (David Miles 2016). An accessible account of the Neolithic revolution, rich in archaeological anecdote.

Woodland in the Neolithic of Northern Europe (Gordon Noble 2017). A rich and accessible account of woodland in the Neolithic – and of the Neolithic in woodland.

Tree Measuring: connecting trees with the Curriculum for Excellence (Outdoor Woodland & Learning Scotland 2018).

Fear of Farming (Caroline Wickham-Jones 2010). An inspirational discussion of how archaeological evidence and ideas can inform modern sustainability.

References used in the text

Wood and Fire: Scotland's Timber Cursus Monuments (Kenny Brophy and Kirsty Millican 2015) in Archaeological Journal (172).

Britain Begins (Barry Cunliffe 2013).

Stonehenge and timber circles (Alex Gibson 1998).

Seeing the Wood in the Trees: The Timber Monuments of Neolithic Scotland (Kirsty Millican 2016) in *The Neolithic of Mainland Scotland* (edited by Kenny Brophy, Gavin MacGregor and Ian Ralston 2016).

Neolithic Scotland: timber, stone, earth and fire (Gordon Noble 2006).

A History of Ancient Britain (Neil Oliver 2011).

The Neolithicisation of Britain and Ireland: the Arrival of Immigrant Farmers from Continental Europe and its Impact on Pre-existing Lifeways (Alison Sheridan 2016) in *The Origins of Food Production* (edited by Nuria Sanz 2016).

About the authors

Kim Biddulph

Kim Biddulph is a freelance archaeological educator. Her aim is to promote understanding of how archaeological knowledge is created, leading and enabling workshops for children in archaeological investigation and hands-on experiential and experimental activities. She runs Schools Prehistory and Archaeology and 500 BC. She also presents the Prehi/stories podcast on the Archaeology Podcast Network.

Matt Ritchie

Matt Ritchie is a National Environment Advisor for Forestry and Land Scotland. He helps ensure the protection, conservation and presentation of the historic environment in Scotland's national forests. He aims to promote and develop the methodology of creative archaeological visualisation, and to highlight the potential for archaeology within schools and outdoor learning.

Imagine the world of the Neolithic pioneers, living and working within Scotland's ancient wildwood

Step beyond the familiar stone circles of Scotland's prehistory to explore the archaeology of our lost timber halls and timber circles. Using an inspirational blend of discussion, creative indoor activities and practical outdoor woodland learning, the authors draw on the work of leading archaeologists to describe a very different Neolithic – one not of stone but of wood. Although describing a time far removed from today, they use the contemporary human experience to ask "are we still Neolithic?"

This resource will be of interest to teachers, archaeological educators and youth group leaders – and to anyone with an interest in the presentation and interpretation of our ancient past.

Forestry and Land Scotland | Coilltearachd agus Fearann Alba

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