

# Inspired by Nature

A guide to using native plants and trees as a learning resource – games, crafts, recipes and herbal remedies.

© 2017 Louise Ambrose, Birchwood Learning, on behalf of the National Forest / South Derbyshire 'Forest Education Network' Group



Resource development supported by:



## Contents:

1. Introduction – *Page 3*
2. Benefits of Using Natural Resources for Learning – *Page 4*
3. Health and Safety Considerations – *Page 5*
4. Awareness of Legal Requirements – *Page 6*
5. Species Identification – Tips to help get you started – *Page 7*
6. Identification Games for Groups – *Page 8*
7. Birch – *Page 10*
8. Bramble – *Page 13*
9. Daisy – *Page 15*
10. Dandelion – *Page 17*
11. Elder – *Page 19*
12. Pendulous Sedge – *Page 24*
13. Plantain – *Page 26*
14. Stinging Nettle – *Page 29*
15. Willow – *Page 32*
16. Natural First Aid- *Page 35*
17. References – *Page 36*
18. Further Reading – *Page 37*

*Louise's resource pack was commissioned by  
the Forest Education Network (The National Forest/ South Derbyshire group)  
and funded by the Ernest Cook Trust and the National Forest Company.  
We hope you enjoy using it!*

For more information please contact The Education Team:  
Environmental Education Project  
Unit 1a, Rosliston, Swadlincote,  
Derbyshire, DE12 8JX  
[rosliston@southderbyshire.gov.uk](mailto:rosliston@southderbyshire.gov.uk)  
[www.roslistonforestrycentre.co.uk](http://www.roslistonforestrycentre.co.uk)  
Tel: 01283 535039

Also look at: [www.facebook.com/groups/SchoolActivitiesSDerbys/](https://www.facebook.com/groups/SchoolActivitiesSDerbys/)



## 1. Introduction

There are approximately 50 native trees in the UK and over 1,400 vascular plants (1). The term 'native' means that the species arrived in the UK under its own steam after the last ice age (12,000 years ago) – which means that most native species have been around since before the English Channel formed 8,000 years ago. As native species have been around for so long, they are well established within the ecology of the UK and have many interactions with other species.

*"Weeds are flowers too, once you get to know them." Eeyore (Winnie the Pooh)*

According to some archaeologists, humans have been present in the UK for nearly a million years (2). Our ancestors would have had an inherent connection with the plants and trees, as well as the other animals around them. They relied on these species for their food, medicine, building materials, cordage, fire making, craft materials and spiritual connection.



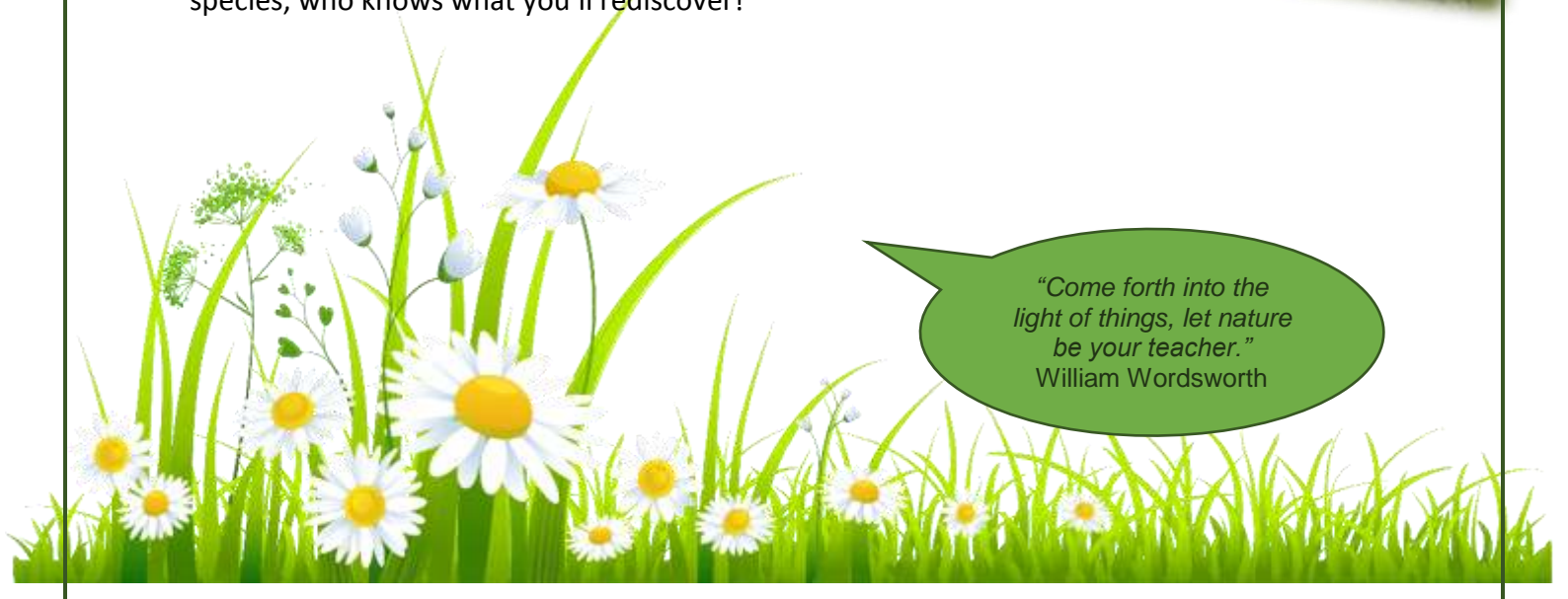
The modern human lifestyle is very different to our hunter and gatherer ancestors; however, our brains and bodies are not that dissimilar. We are living in a time of crisis for mental illness, obesity, allergies and intolerances, and learning disorders such as ADHD – maybe our modern lifestyle is too far away from how we are designed to live? Going out into nature and connecting with common native species may be a way of reawakening our primal instincts and getting back to our roots, to the benefit of our health, wellbeing and understanding.

This resource pack will support you to identify 10 amazing native trees and plants. We have focused on very common species that are easy to recognise and often considered as weeds by some. This pack will share and celebrate the other side of these species – as tasty nutritious food, powerful remedies to heal the body, ancient folklore stories and as useful craft materials to make string, baskets and decorative items.



So what are you waiting for? Head out and make friends with these fabulous species, who knows what you'll rediscover!

*"Come forth into the light of things, let nature be your teacher."*  
William Wordsworth





## 2. Benefits of using Natural Resources for Learning

The natural world is best shared. We hope that you will use this pack to experience the plants and have a go at the activities together with others. Whether you are a parent sharing these with your children, a teacher/practitioner sharing with your class/group or getting together with friends, the activity ideas will help you develop knowledge, skills and understanding of the natural world.

Here are a few thoughts as to the benefits of working with nature and natural materials:



*"If a child is to keep alive his inborn sense of wonder, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in." Rachel Carson*

### 3. Health and Safety Considerations

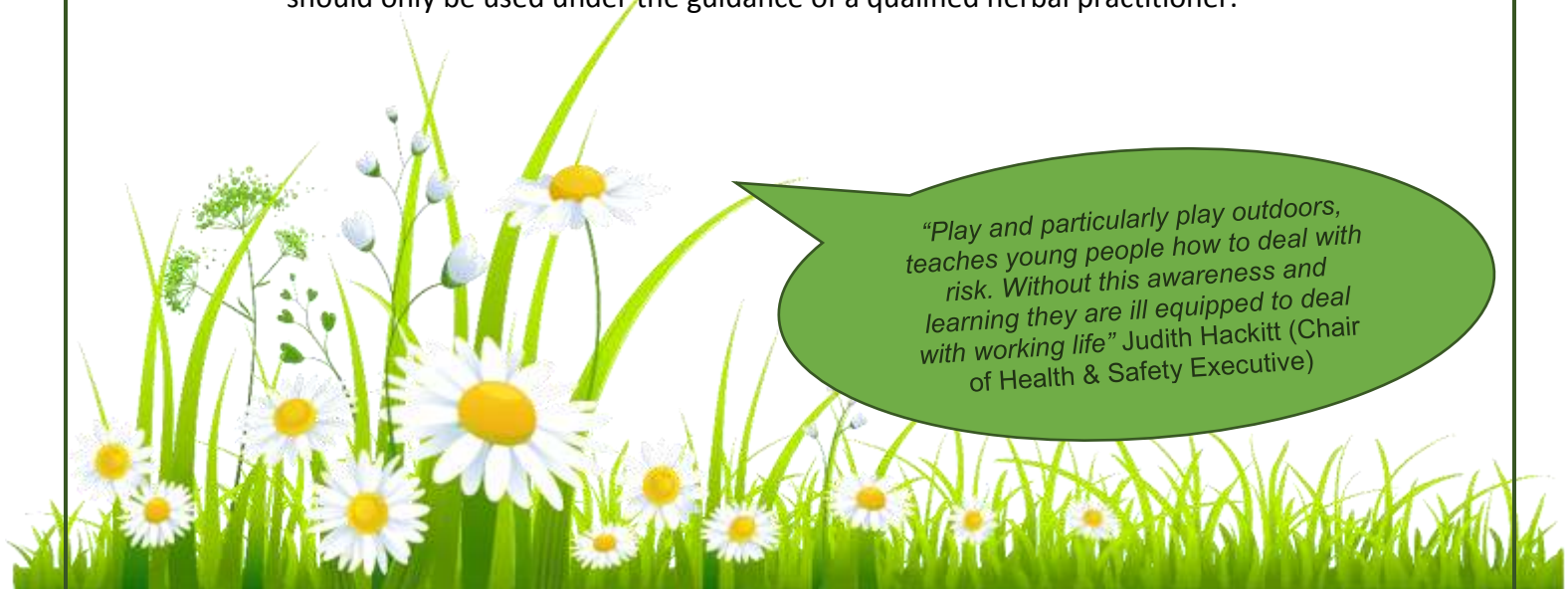
As with any outdoor learning activity it is important to take a common sense approach to risk management. If you are undertaking any of these activities with groups please ensure that you undertake your own risk assessment taking into consideration the site, group and activities planned. If you are in any doubt then seek advice from a specialist or from the Health and Safety Executive – [www.hse.gov.uk](http://www.hse.gov.uk)

Many of the ideas contained within this pack involve harvesting parts of wild plants or trees, and some involve eating the species for either food or medicine. The species contained within this pack are all considered harmless species, however do consider the following:

- As with any type of wild food harvesting it is important to be able to accurately identify species being used and *'if in doubt – leave it out!'*
- Consider where you collect plants from – avoid areas where chemicals have been used (e.g. field boundaries) or alongside busy roads.
- Everyone's body is different, be aware that some people will react more or less than others to different plants. It is advisable when trying new foods for the first time to only eat a small amount.
- Some individuals may have allergies or be more sensitive to handling some materials. Ensure you are aware of individual's medical needs before undertaking the activity.
- Always seek professional medical advice for diagnosing serious injuries or long term health conditions.
- If taking prescribed medicines, pregnant or nursing, always check with a medical professional before taking any herbal remedy.
- Check the advised dosage of herbal remedies from a reputable source (person, book etc.)
- Some other species (not contained within this resource) are extremely potent and should only be used under the guidance of a qualified herbal practitioner.



*"Play and particularly play outdoors, teaches young people how to deal with risk. Without this awareness and learning they are ill equipped to deal with working life"* Judith Hackitt (Chair of Health & Safety Executive)





#### 4. Awareness of Legal Requirements

Before going out and collecting any natural resources it is important to be aware of certain legal requirements that relate to harvesting wild plants. The main ones to be aware of are:

- The Theft Act (1968) – designates living things present in an area as the property of the land owner. However there is a clause in the law *“A person who picks mushrooms growing wild on any land, or who picks flowers, fruit or foliage from a plant growing wild on any land, does not (although not in possession of the land) steal what he picks, unless he does it for reward or sale or other commercial purpose.”*
- Countryside & Rights of Way Act (2004)– Ensure that you legally have access to the land (public rights of way, open access or landowners permission)
- Countryside & Wildlife Act (1981) – Ensure that none of the plants being collected are on Schedule 8 list (protected species). States it is illegal to uproot a plant without landowner permission.
- In some areas there may also be local bylaws that prohibit foraging – notices should be present if public access is on the land.



In conclusion: **It is normally fine to pick the 'Four Fs'; fruit, foliage, fungi or flowers (assuming that none of them are protected species and you have a legal right to be on the land) which are growing wild if they are for personal use and not for sale.**

Practice sustainable harvesting by:

- Only harvest what you need, leaving some of the plant so it will grow back.
- If collecting roots try to introduce some seeds to the bare earth (if it's the right time of year)
- Try to collect from an area where the species is abundant, leaving some for wildlife.

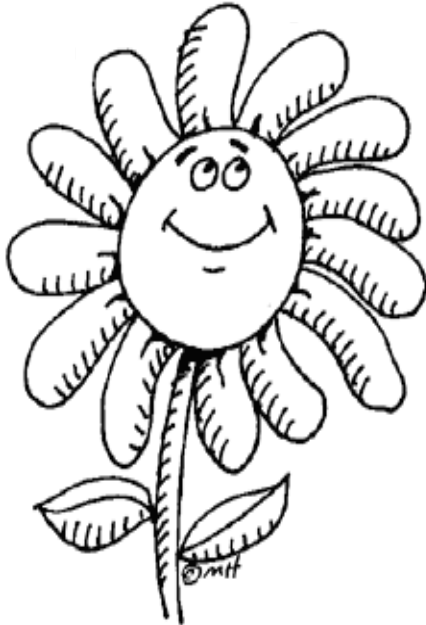
A decorative border at the bottom of the page featuring a field of green grass and several white daisies with yellow centers. The flowers are in various stages of bloom, and the grass is tall and vibrant green.

*“In every walk with nature one receives far more than he seeks.” John Muir*

## 5. Species Identification – Tips to help get you started

Identifying species begins with observation skills – noticing similarities and differences of features. It can be considered like a detective piecing together clues until all the evidence points at the right conclusion!

If identifying species is new to you start with just a few common species and really get to know them. Look at them in different growth phases, times of year and environmental conditions. When looking at a plant or tree for the first time look at the details:

<p><b>Leaves</b></p> <ul style="list-style-type: none"> <li>• What shape are they?</li> <li>• What colour are they?</li> <li>• What are the edges like?</li> <li>• How are they arranged around the stem?</li> <li>• Are they smooth, rough, hairy, sticky?</li> </ul>		<p><b>Flower</b></p> <ul style="list-style-type: none"> <li>• What colour is it?</li> <li>• What shape is it?</li> <li>• Are there a few large flowers or lots of little ones?</li> <li>• Is it scented?</li> </ul>
<p><b>Plant shape</b></p> <ul style="list-style-type: none"> <li>• How large is it?</li> <li>• What shape does it grow in? (Tall and straight, creeping along the ground)</li> <li>• Is it single stemmed or does the stem branch out?</li> </ul>		<p><b>Seed</b></p> <ul style="list-style-type: none"> <li>• What shape is it?</li> <li>• How is it dispersed? (Wings, hooks, fruit)</li> <li>• How are the seeds carried? (pod, nutcase, shaker)</li> <li>• Are there a few large seeds or lots of little ones?</li> </ul>
		<p><b>Habitat</b></p> <ul style="list-style-type: none"> <li>• Is it wet or dry?</li> <li>• Is it shady or in full sunlight?</li> <li>• What is the soil type?</li> </ul>

Use a reputable field guide to help you ID species, or seek the support of more experienced people. Many wildlife organisations have guided wildflower or tree walks.

One of the best ways to get to know species is to use them. You will remember the ones that are useful to you!

### Further Support:

- *The Field Studies Council creates fold out ID charts for a variety of different species and habitats. <http://www.field-studies-council.org/publications/fold-out-charts.aspx>*
- *I Spot is an online tool where you can post images of species and the website users will help ID them. There are also online keys you can use. <https://www.ispotnature.org/>*



## 6. Identification Games for groups

### Games to encourage noticing similarities and differences:

**Matching** – Leaf shapes, flowers, seeds, colours. Matching activities could be carried out using real plant items (pressing and laminating them may make them last longer), or photos and diagrams. A good way to start is to give players a leaf or flower or seed, ensuring there are at least two of each species in the group and then ask players to match theirs to others. When they find each other get them to say why they are the same. If you make cards for species then games like snap, pairs and top trumps could be played.

**Sorting** – Grouping plants, leaves, seeds or flowers into categories (could be by colour, shape or habitat). Older children could make their own keys to identify plants collected by creating yes/no questions.

**Odd one out** – A thinking skills activity with no right or wrong answer. Present three or more items (plants, leaves, flowers, seeds etc.) that could be sorted in different ways. Ask the children which the odd one out is and explain why. Ensure all participants know there may be no single right answer.

### Games to encourage observation:

**Kim's Game** – Collect a number of natural items (leaves, seeds, flowers) and place them under a cloth. Let the group sit round and uncover the items for one minute. The group then needs to see how many they remember. Variation: arrange the items to make a picture and the children have to go and collect the same items and recreate the picture.

**Treasure Hunt** – Ask children to collect plant items e.g. something fluffy, a nice leaf, something green etc. These could be collected in bags, baskets, egg boxes or on sticky cards. Older children could play it as a bingo game. The hunt could be themed e.g. collect as many different seeds/leaves as you can find.

**Natures Mime** – Ask children to pick a plant or tree and mime it, everyone else has to guess which it is. This could be done in team too. This draws attention to the growth habit of species.

**Colour-hunt** – Using paint tester cards (from a DIY store) of natural colours of different shades, see how many colours you can match.

**Micro-hike** – Pretend you have shrunk to the size of an ant and are going for a walk. Throw





down a piece of string and walk along it using your magic eye (a magnify glass). Look for different plants and mark with flags (made from cocktail sticks).

**Seed Socks** – Good for areas of meadow in the summer. Put on a pair of big woolly socks over your shoes. Walk around the area through the plants. Some seeds should stick to the socks – the ones designed to be dispersed by hooking onto animals.

**My Leaf** – A paired game. One person picks a leaf and the other has a pencil and paper. The pair sit back to back. The person with the leaf has to describe it in as much detail as possible whilst their partner has to draw it based on their description.

**kennings Poem** – A kenning is a 2 word phrase used to describe something in metaphor, used in Anglo-Saxon and Norse poetry. You can create riddle-like poems about plants and trees by stringing these 2 word lines together. E.g.

Beaming face  
Sun lover  
Golden maned  
Fluffy clock

(Did you get it?... Dandelion!)

### Games to consolidate species known:

**Who am I?** – Give each player a card with a species on (or it could be part of the real plant) without them knowing who they are (perhaps put the card on their back). They have to ask someone else yes or no questions about themselves until they work out who they are.

**Deduction** – Take plant samples or photos of species learnt so far and place them on the ground. Read out clues for one of the species – start with more general clues like ‘my leaves are arranged alternately’ or ‘I have small flowers’. After each clue people have to stand by the species they think it is. Make the clues more and more specific about the species until hopefully everyone will be standing on the right one by the end!

#### *Further Support:*

*Many of the ideas for these games have come from the classic and timeless environmental education resources:*

- *Sharing Nature with Children* by Joseph Cornell ISBN: 1883220734
- *Earth Walks folder* – The Institute for Earth Education - <http://www.earthed.org.uk/>



## 7. Birch (*Betula pendula*, *Betula pubescens*)

The pale barked beauty. Birch is a very giving tree, both to other species and to humans. As an early successional species it acts as a 'nurse species' by changing the environment to be more hospitable for later successional species. It also has a huge range of physical, medicinal and spiritual uses that humans have depended on for generations. There are two native species of birch: Silver Birch or *Betula pendula* has upper branches that have a drooping growth habit and hairless twigs, whereas the Downy Birch or *Betula pubescens* has an upright growth habit and downy twigs (particularly the new growth). However, the two species do hybridise resulting in mixed features on some trees!



**Height:** Slender tree up to 25 metres (5)

**Leaf Properties and Uses:** Triangular shaped leaves with toothed edges and short leaf stalk. The fresh leaves and buds can be steeped in boiling water to make a medicinal tea (see green box below). Birch tea is a diuretic and is good for general detoxing and particularly for urinary complaints, rheumatic and arthritic issues. The fresh leaves can be mashed up as poultice and put directly onto the skin to help eczema and acne.

**Flowers:** Birches are monoecious, meaning both male and female parts are found on the same tree. Both male and female flowers are catkins (April – May). The male ones are longer (3-6cm), brownish yellow in colour and found at the end of twigs, often in groups of two to four. Female catkins are bright green, shorter and erect. (6)

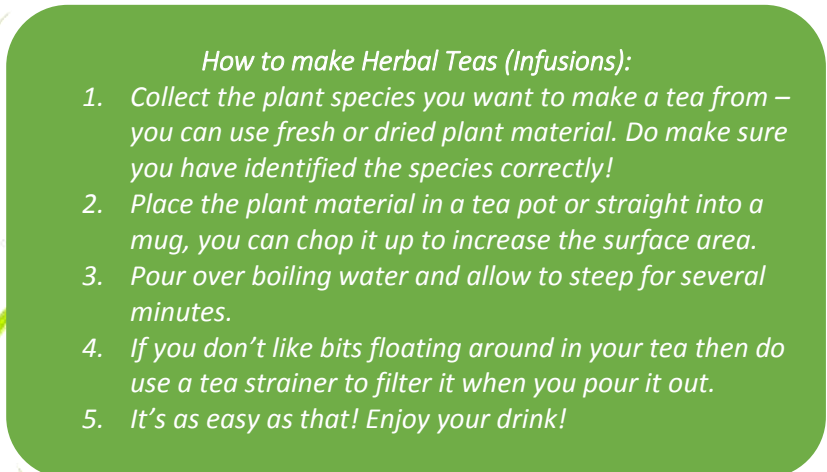
**Fruit:** After pollination the female catkins thicken and turn darker. (6) Masses of tiny winged seeds are dispersed by the wind from the catkins in the autumn.

### Bark Properties and Uses:

The beautiful pale bark of the birch is one of its key defining characteristics. It is silvery white on mature trees, but often purpley, redy brown on

#### How to make Herbal Teas (Infusions):

1. Collect the plant species you want to make a tea from – you can use fresh or dried plant material. Do make sure you have identified the species correctly!
2. Place the plant material in a tea pot or straight into a mug, you can chop it up to increase the surface area.
3. Pour over boiling water and allow to steep for several minutes.
4. If you don't like bits floating around in your tea then do use a tea strainer to filter it when you pour it out.
5. It's as easy as that! Enjoy your drink!



young trees. Older trees have black knobbly markings, where the bark has expanded or where old branches have been. The tree sheds its bark (as all trees do as they grow) naturally in paper-like strips.

The bark naturally contains resinous oils which make the bark waterproof and also flammable. This has led to Birch being a much revered species by indigenous people across the northern hemisphere. Birch Bark has been used by native people to traditionally make baskets and containers of all kinds, roofing for wigwams, canoes, shoes, paper and is invaluable for fire lighting. (See activity idea below).

**Wood Properties and Uses:** Birch wood is a tough, pale or golden wood (sometimes with brown flecks in it). Its fibres can be quite long and 'hairy' when working it. Traditionally birch was used to make small turned items like toys, bobbins, and tool handles (7). As Birch has the association with new birth and new beginnings it would also be the wood that cradles were traditionally made from (8).

The flexible young twigs off the birch would be used for a variety of things e.g. the heads of the besom broom, to fill in horse jumps.

Birch, being full of natural oils, is very good firewood as it burns quickly and with a bright flame, so it is better used for the start of a fire, rather than to get embers. The oils in the bark are also a reasonably effective insect repellent.



**Pests:** 'Witches brooms' are a type of gall caused by a fungus (*Taphrina betulina*). The infection causes the tree to respond by sending out lots of shoots which looks like a dense messy clump of twigs (sometimes mistaken for nests). There can often be a few in the branches of an infected tree. In folklore it was believed that these were caused by witches flying over the tree, hence the name.

The fungi Birch Polypore (*Piptoporus betulinus*) is commonly found on Birch. It is sometimes called Razor Strop as apparently barbers used to use a strip of the fungus 'leather' as a strop to hone their razor blades. Strips of the fungus can also be used as a plaster if you cut yourself. That's lucky for those old barbers!





**Folklore:** Birch, being a pioneer, represents new beginnings, inception and birth. It is the first tree of the Ogham (Celtic tree alphabet) – ‘Beth’. Items for babies, like cradles, toys and spoons, were often made from Birch for this association or charms made from Birch would be used to decorate cots to give the child ‘the best start’ (9). Being a white/silvery tree, it also has associations with purification. To be given a ‘birching’ was to be whipped by a flexible birch rod. It was believed that the birch would purify a person and drive out evil (8).

### Activity Idea - Tapping for Birch Sap

Early spring is the time to get to the woods and hear the sap rising! Birch Sap traditionally has been drunk as a refreshing and cleansing spring tonic. Birch does have medicinal benefits too – traditionally the sap was drunk for breaking up kidney or bladder stones. You can also use it to make wine or beer or boil it down to make syrup.

You can drink the sap of any birch species – but silver birch tastes much nicer than the others. Pick a sunny day to do the collecting.

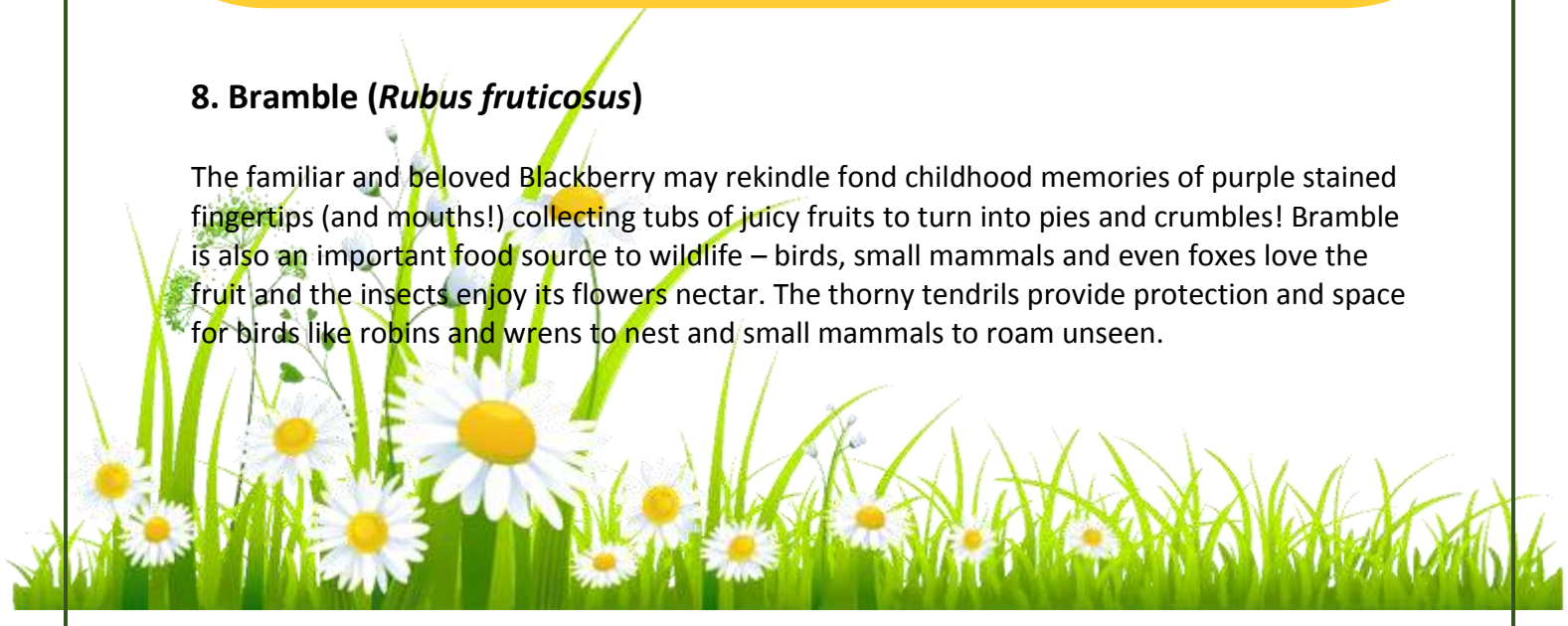
Many sources will tell you to drill a hole through the bark of the trunk, till you reach the cambium layer, and then insert a tube connected to a container a wait for the sap to drain. However, there is a less obtrusive method as drilling into the trunk can potentially introduce infection into the tree.

A more sensitive and lower impact way of collecting sap is to cut off the end of one of the smaller side branches and then allowing the sap to drip out into a container. Depending on the size of the branch that has been cut, the end might fit into a collecting tube. Leave to collect the amount of sap required. Using this method means that if an infection does get into the tree, the tree can compartmentalise the branch, rather than it getting into the main vessels running up and down the trunk. Before you choose a tree and branch you could ask the tree for its permission and see if it guides you to take certain branches. From a management perspective, some trees may need pruning, or may have suffered past damage so would make logical choices for cutting.

If you haven't yet discovered the fascinating world of how trees look after themselves then we recommend typing CODIT into a search engine. CODIT = Compartmentalisation of Decay in Trees.

## **8. Bramble (*Rubus fruticosus*)**

The familiar and beloved Blackberry may rekindle fond childhood memories of purple stained fingertips (and mouths!) collecting tubs of juicy fruits to turn into pies and crumbles! Bramble is also an important food source to wildlife – birds, small mammals and even foxes love the fruit and the insects enjoy its flowers nectar. The thorny tendrils provide protection and space for birds like robins and wrens to nest and small mammals to roam unseen.





**Height:** A scrambling shrub 1-3m, usually with arching thorny stems (5)

**Leaf Properties and Uses:** Leaves are compound with 3-5 oval leaflets with toothed edges. The young leaves and shoots are packed with vitamins and minerals and can be used as a salad vegetable or as a tea (see page 10 for tea making) as a traditional spring tonic. The leaves and unripe fruit are high in tannins and so are also used for their astringent properties – crushed leaves can be used to reduce bleeding of cuts and scratches – just what you need when dealing with the thorns of the bramble! The main use of bramble leaf tea is as a remedy for diarrhoea and it is a gentle enough astringent to be appropriate for children to

drink. It can also be used for mouth problems, like ulcers and gum disease, it was once thought to strength loose teeth.

**Flower:** White or pale pink growing in groups at the end of a stem. Bramble blooms from May to September (10).

**Fruit:** The familiar glossy blackberries ripen August to November and have been a favourite of humans for thousands of years. Blackberry pips were found in the stomach of a Stone Age man dug out of clay on the Essex coast (11). The fruits are high in vitamin C and can be enjoyed raw or used in a variety of different recipes from pies to jams, pancakes to wine. Please see below for some ideas.



### Recipe Ideas – Beautiful Blackberries

**Blackberry Pancakes** – Make up a scotch pancake batter by whisking 200g of self-raising flour, 100g caster sugar, 2 eggs and a splash of milk until the consistency is about the same as thick double cream. Mix in a good amount of blackberries into the batter. Fry in a pan for a couple of minutes each side till golden brown (as a rough guide – when the pancake begins to bubble it is ready to flip over).

**Blackberry Spread** – Add 500g of blackberries and 500g of tart apples (chopped but not peeled or cored) with the grated zest and juice of 1 lemon in a pan and simmer for 15 mins until soft and mushy. For every 400g of pulp add 300g of sugar and heat gently till sugar dissolves then simmer and stir until mixture is thick and smooth (about 20mins) . Store in airtight jars and spread on toast or scones. (12)

**Autumn Pudding** – Cut 8 – 10 slices of bread and remove the crusts. Moisten with milk and line the sides of a pudding basin. Fill basin with a mixture of dark fruits – mainly blackberries, with a few elderberries, sloes, crab apples etc. These berries should have been cooked for 10 mins and sweetened with honey or sugar. Cover top with more moistened bread, then cover with greaseproof paper, weigh down and leave to stand overnight in the fridge. Turn out of the bowl and serve with cream or custard.

**Folklore:** It is said that you should only gather Blackberries before the 10<sup>th</sup> October (or 29<sup>th</sup> September in the old calendars – Michaelmas day), as during this night the devil spits on them (11). In fact, due to the temperature dropping at this time and potential frosts, the fruits do tend to become watery and mouldy on the bush.

In the story of sleeping beauty it is thought that that the thicket that grew up around the sleeping castle was bramble and/or wild rose (12).

In the US Civil war (1861 – 65) the fighting was sometimes interrupted for 'blackberry truces' so that both sides could gather blackberry leaves to make a tea to treat diarrhoea and dysentery which was rife in both armies (12).





## 9. Daisy (*Bellis perennis*)



Many of us will have fond memories of wearing this little flower as daisy chains. The name daisy comes from its old Anglo Saxon name 'Days eye' which refers to how the flowers close up tight at night but open wide towards the sun. The petals also close up just before it rains so perhaps could be used as a local weather forecast!

**Height:** Stems 3-10cm, hairy and leafless (5)

**Leaf Properties and Uses:** A basal rosette of downy, oval leaves, with bluntly toothed edges (5). The young leaves can be used as a salad vegetable, but they can be a bit tough. Another common name for Daisy is 'Bruisewort' and historically has been used to ease the heat and

pain of bruises, ulcers, swellings and burns on the skin (12). The

Romans were known to soak bandages in the juice extracted from daisies to treat sword and spear wounds (12). Another way to use Daisy on the skin would be to make an ointment (please see below). Daisy is a close relative to Arnica so could be used in the same way for bruises, cuts and aching muscles. Daisy tea (see page 10 for tea making) is a traditional expectorant, relaxing the spasms of coughs, it is also a general relaxant so can be taken like chamomile (12). Please note it is not recommended to take daisy internally if you are pregnant.

### *How to make a Herbal Infused Oil and/or Ointment*

1. *Collect the fresh plant material and place in a clean jar.*
2. *Cover with extra virgin olive oil and ensure the plant material is pushed down.*
3. *Cover the jar with a cloth held on with an elastic band (this will let any moisture escape).*
4. *Leave on a sunny windowsill to infuse for about a month. Keep checking that the plant material is covered by the oil and push down if needed.*
5. *Strain out the plant material – this is an 'infused oil' and can be used as a food (if edible species used!) or as a muscle rub.*
6. *If making an ointment then continue by placing the oil in a pan and adding 10g of beeswax for every 100ml of oil.*
7. *Heat gently until the wax has melted. You can test the setting by dripping some onto a cold saucer (the same way you test jam). If it is too soft add a bit more wax.*
8. *Pour into jars and allow to cool before putting the lids on.*
9. *Remember to label your pots!*



**Flower:** We're sure everyone is familiar with the cheery flower heads with its yellow centre with many white, pink tipped petals surrounding it. Daisies flower April to July.

**Fruit:** Small, pointed oval seeds that develop on the head.

**Folklore:** The old belief about daisy chains was to protect children from being stolen by the faery folk. It was believed that evil spirits would not pass through a circle – hence making and wearing daisy crowns, necklaces and bracelets a necessity! (12)

The flower has also been used in love divination – picking a flower and pulling off a petal one by one to the chant 'he/she loves me, he/she loves me not' the last petal giving you your answer!



#### Activity Idea – Making Daisy Chains

What better way to spend a sunny summer's day than to lay out on the grass making daisy chains!

Try and collect stems that are long and fat – this will be less fiddly. Pick the stems at the base and then use your finger nail to make a slit in the middle of the stem. Try to keep it central so that it doesn't rip out one side of the stem. Thread another flower stem through the hole you have created. Repeat this process for as long as you want your chain. On the last one you have to connect the first flower to the last stem so you need to make a slightly bigger hole so you can carefully poke the whole flower head through.

Make sure you wear your chain so the faeries won't steal you away!

*"When you can put your  
foot on seven daisies  
summer is come"  
Old Proverb (10)*



## 10. Dandelion (*Taraxacum officinale*)

This familiar perennial is treated disrespectfully by some, who consider it a persistent weed. From a different perspective it is an amazing pioneering species – being able to grow and flourish in even the most meagre conditions. It changes the environment so that other species may live there. There is no brighter sight than a dandelion pushing up its beaming face through a crack in the concrete!

**Height:** Hollow stems 10-20cm, hairy and leafless (10). When picked, the stems ooze a milking latex. This sap was once used in patent medicines and was said to remove freckles, age spots, corns and warts! (12)

**Leaf Properties and Uses:** A basal rosette of deeply toothed lance-shaped leaves which give dandelion its common name from the French '*dent de lion*' (tooth of the lion). The leaves are rich in protein, sugars, vitamins and minerals (especially potassium and vitamins, A, B, C and D) and can be eaten raw as a salad vegetable or cooked in soups, as a vegetable or as a tea. The young leaves are best, as larger one become too bitter for most palates. All parts of the plant are edible, and are valuable as both food and medicine. One of its properties is as a diuretic, hence another of its common names '*pissabed*'! It has a cleansing effect on the body – clearing blood and lymph systems by increasing elimination through the kidneys and bowels (12). It is particularly effective at stimulating the liver, so can be used to treat conditions such as jaundice, hepatitis, gallstones etc.



**Flower Properties and Uses:** Bright yellow heads sit atop the single stem from April until October (10). The flowers are edible raw in salads, or can be turned into fritters (see recipe ideas below). They have also been traditionally fermented into wine (11). The flowers can be used to make an infused oil (see page 15) which can be used as a muscle rub for tension and cold, stiff joints. This oil is also edible so could make a nice salad dressing! (12)

**Fruit:** We're sure everyone is familiar with the fantastic fluffy 'clocks' of tiny seeds, each with a feathery parachute.





### Recipe Ideas – Delightful Dandelions

**Dandelion Flower Fritters** – Pick the flowers on a sunny day so the heads are nice and big. Wash them, then dip them into flour and fry them in butter. For a touch of decadence - dribble over some maple syrup!

**Dandelion ‘coffee’** – Dig the roots from September to March. Clean them well then dry them out over a radiator or in an airing cupboard for at least 2 days. Chop them into 1cm lengths and roast them in a low oven. You can make the flavour stronger by roasting them to a darker colour. Remember to turn the pieces to get an even roast. These pieces will keep in an airtight container. Use the root pieces as you would coffee beans - Grind them then add to a cafeteria to brew before filtering them out. The drink doesn't actually taste anything like coffee, but makes a pleasant drink. Its flavour is quite bitter so you can add sugar or other spices such as cardamom, cinnamon or nutmeg.

**Folklore:** The earliest record of using Dandelion medicinally was by an Arabian physician in the tenth century (11).

Dandelion seed heads have also been used in love divination. Take the fluffy globe and blow it as hard as you can; if all the seeds are gone then you are loved passionately, if a few seeds remain then your loved one has a few reservations and if there are lots of seeds left then ... well... err, best to keep your options open! A different version is that after you have blown the clock the number of seeds left will be the number of children you will have. It is also believed that the dandelion seeds floating on the wind will carry your thoughts and affections to a loved one.


### Activity Idea – Dandelion Clocks

Another childhood classic! Legend has it that the number of puffs it takes to blow all the seeds off one of the fluffy heads is the hour of the day!

It is also recognised that its flowers open an hour after sunrise and shut at dusk, providing another way of keeping time!

Its fluffy seed heads also serve as a local weather forecast – if it's going to rain they will remain tightly closed and only open when the weather is going to be fine.

Finally, don't forget to make a wish before you blow the seeds!

A vibrant illustration of a field of dandelions with white petals and yellow centers, growing on green grass. A green speech bubble is positioned on the right side of the image, containing a quote.

*"I have lost my smile, but don't worry. The dandelion has it."  
Nhat Hanh*

## 11. Elder (*Sambucus nigra*)

The history of this common wayside tree is one of duality. No other plant has invoked so much respect but also so much fear. Elder has long been associated with magic and witchcraft. It was believed that elder trees were a favourite form for witches to transform into – perhaps because of its hunched, gnarly form and warty bark?! On the contrary, it was also believed that elder would protect against witches and there are many charms associated with it. Elder is a very useful tree in terms of its health promoting virtues; it has been described as a whole medicine chest in one plant (12). The tree tends to like nitrogen rich soils and it is often found around rabbit warrens as the rabbits find them unpalatable (5).


**Height:** Shrub or small tree up to 10m (5). The branches often have an arching habit.



**Leaf Properties and Uses:** Leaves are arranged in opposite pairs and are compound with 5-7 oval leaflets with serrated margins. When crushed the leaves give off a characteristic smell which some people say smells like wee! For this reason the leaves have been used as an insect repellent – make an infusion and rub on the skin for those who don't mind the scent! Do be aware that the leaves and stems of the elder are poisonous so only use these parts externally.

**Flower Properties and Uses:** A flat-topped umbel of creamy white flowers bloom from June to July. Each individual flower is about 8mm across with 5 petals. Unlike the leaves, the flowers are sweet smelling and used extensively for wild food and drink (see recipes below).

Medicinally, a tea made from the flowers encourages sweating to break a fever. It promotes elimination of toxins through the skin and urinary tract and supports the circulation system. It also cuts congestion and inflammation of the upper respiratory tract. It works well to relieve the symptoms of hay-fever and would combine well with nettle and/or plantain (see pages below) in a tea for this purpose (12). Historically elderflower water was used externally as a remedy for sunburn and removing freckles (11).



"If the medicinal properties of its (Elder) leaves, bark and berries were fully known, I cannot tell what our countryman could ail for which he might not fetch a remedy from every hedge for sickness and wound"  
John Evelyn

### Recipe Ideas – Elegant Elderflowers

**Elderflower Fritters** – Pick the flower umbels on a sunny day and shake off any insects. Make up a pancake batter by whisking up 4oz flour, 1 egg, pinch of salt and ¼ pint water (sparkling is good for a bubbly batter). Using the umbel stem as a handle, dip the flower heads in the batter and deep fry them in hot oil until golden brown. Drain on kitchen paper and trim excess stalk. Very good warm, sprinkled with icing sugar and served with ice cream!

**Elderflower Cordial** – Pick 30 heads of elderflowers on a sunny day – select ones that smell fragrant and fresh. Separate as much of the flowers from the green stems as possible – using a fork to comb through the umbels can work well. Boil 1kg of sugar in 2 litres of water for about 5 minutes in a large pan. Pour into a large ceramic bowl and add 50g of citric acid, and 2 chopped lemons. Add the elderflowers and stir well. Cover with a clean cloth and leave for 4 days, stirring every day. Strain and bottle. The cordial will keep in air tight bottles. Dilute to drink, it can be used cold or hot.



**Fruit Properties and Uses:** From late August the flower umbels ripen into bunches of purple-black berries, each one 6-8mm wide. Raw elderberries are mildly poisonous and will have a purgative effect if eaten in quality. Therefore, they are better enjoyed cooked and make a welcome addition to pies, crumbles and jams. They can also be turned into wine and historically were used to colour and flavour other red wines and ports (10). Medicinally, the berries have antiviral properties and are high in vitamin C; they are known to reduce the length and severity of colds and flu (12). Elderberry syrup can also be taken as a preventative measure in winter.

Elderberries also can be used to make a purple/blue dye.

Romans used to mix them with wine to make a black hair dye (8)

**Bark:** Light brown, deeply furrowed and corky on larger stems, raised bobbles on younger growth.





### Activity Idea – Natural Paints

The colours of nature are all around us – they just need releasing!

Berries like elderberries, blackberries, cherries, sloes are often found abundant in the hedgerows – experiment with crushing them using a pestle and mortar (or even between 2 flat stones). The resultant juice can be used like a paint to decorate paper, wood or fabric or as a dye to soak material, or wool in. Please note that these natural paints will be temporary and will disappear if you wash the fabric. If you want things to stain permanently you need to fix the dye using a mordant such as alum. Also, to release the pigments from some plants you need to heat them in solution.

Other pigments can be found by crushing materials into very fine powders and mixing with diluted egg white (the traditional way) or alternatively gum Arabic or even PVA glue. Chalk, charcoal, mineral soils, old bricks all work well. You can also use pre-powdered spices such as turmeric and cayenne pepper.

You could also experiment with making natural paint brushes using natural materials like: grasses, seed heads, sticks, feathers, pine needles etc.

**Wood Properties and Uses:** The wood is fine, pale and close grained. As the size of the trunk never gets very big, the wood has limited uses but small craft items could be carved from it.

The younger branches have a sizable soft pith running through the middle which is easily pushed out. Traditionally these have been used to make whistles, pea shooters and simple pop guns. Shakespeare, in Henry V, mentions a ‘perilous shot out of an elder-gun’ (11).

The large pith within the wood makes elder a poor choice as a firewood. A fact that is echoed in folklore as it was believed that if you burnt elder wood a death in the family would follow (8).



### Activity Idea – Elder Crafts

The pithy centre of elder can be easily popped out to make a range of things using the hollowed stems. Do remember if you are using tools with groups to ensure: all activities are appropriately risk assessed, that all tools are appropriate for the task and well maintained, and that ratios of supervision are appropriate for the group.

**Beads** – Cut an elder branch into small (1-3cm) sections using loppers or small toothed saw. Pop out the pithy middle (we have found the bottom end of a tent peg does this job quite well) and thread onto strings. Experiment with them by removing the bark and staining the wood with natural dyes (see above activity idea). More experienced tool users could use a knife to round off the end of the beads. These beads could be used to make jewellery, key fobs, squirmy-wormlys, puppets etc.

**Pea Shooters** - Cut a length of elder (10-15cm) making sure the pith is bigger than the diameter of your dried peas. Push out the pithy middle to make it hollow. It is easier to do this with longer lengths if you try to ensure that your elder section doesn't have any knots in it, as these bits are tough to push through. If you want, you can remove the bark – on freshly harvested elder this can be done very easily with fingernails. More experienced tool users could use a knife to make patterns in the bark. Load your shooter with a dried pea and blow! Make woodland targets to hit!

**Pop Gun** – Cut a length of elder (15-20cm) and push out its pith as above. Use a knife to taper one end, so that the diameter of the ring of wood is narrow. Find a stick (or whittle one) to neatly fit the diameter of the hole in the gun's 'barrel' and the same length. You could mount this thinner stick into another section of elder as a handle. Again, the bark could be removed or carved as desired. To use the gun, place a slice of potato on a hard surface and push the tapered end into it so it cuts a circular section into its hole (a bit like a cookie cutter). Push this potato piece towards to back of the gun and repeat so that there is also a section of potato at the front of the barrel. To fire, push the stick down the barrel from the back to the front – the air pressure will build between the 2 sections of potato causing the one at the front to fly out with a delightful POP!



**Folklore:** Legend has it that its hollow stem was used by Prometheus to bring fire to man from the gods, and the name 'elder' may have been derived from the Anglo-Saxon word '*aeld*' meaning fire (12). Another old European version of the name 'elder' is from Hylde Moer, the elder or earth mother. Hylde Moer is a dryad (tree spirit) who inhabits elder trees. For this reason it is considered bad luck to cut an elder without asking the mother first.

The respect for elder was once so strong that the church tried to vilify it. Tradition has it that Judas hanged himself on an elder (11). Some even say that Jesus was crucified on an elder (12), and the tree's stunted and twisted appearance is a result of carrying the guilt. The tree has always been associated with death and regeneration.

Elder also has associations with faery magic. In Irish folklore it was believed that if you fell asleep under a flowering elder you might never awaken as the scent of the flowers can transport you to the faery realms. It is also believed that if you stand under an elder on Midsummer Eve you will see the faery king and his entourage (8).

#### Activity Idea – The Elder Wand

For all those Harry Potter fans out there – why not make a real elder wand!  
Cut a length of elder branch – remember to ask the elder mother permission first!

Add things to your wand – 'Thestral' hair might be a bit harder to get hold of but you could push feathers or leaves into the pithy hole. Competent tool users could also carve patterns into the bark or wood. Wool or string could be used to wrap around the wand or to tie natural materials like shells, seeds or cones onto it.





## 12. Pendulous Sedge (*Carex pendula*)

There are approximately 75 species of native sedges in the UK. They grow in damp conditions, pendulous sedge is often found in wet areas within woodlands and along damp rides.

*"Sedges have edges,  
rushes are round and  
grasses are hollow right up  
from the ground"*  
Saying



**Height:** This clump forming plant can be up to 1.5m tall. Sedges have stems which are triangular in cross section.

**Leaf Properties and Uses:** Long (up to 1m), bright green, flat (up to 2cm wide), grass-like leaves that often arch over under their own weight. They appear concertinaed (particularly towards the base of the blade) and are like a 'W' in cross section. Sedge leaves are quite strong and can be woven into mats and strips.

**Flower:** Yellow, catkin-like flower heads that are around 2.5cm in length at the end of long arching stems. In flower from May until July (13).

### Activity Idea – Sedge Mat Weaving

Collect a handful of long sedge leaves, cut as close to the base as possible. Do be aware that the edges of sedge can be quite sharp and can cut you (a bit like a paper cut) so do take care.

- To weave a square mat: start with 4 lengths (2 horizontals and 2 verticals) over-lap them in their middles so that one is over and one under. This will form the centre of the mat.
- Add in two horizontals (one either side of the central ones) and 2 verticals (again one either side of the central ones) at a time using the over-under-over-under pattern. You may need to keep pulling the leaves to centre to ensure it stays a tight weave.
- Repeat this process for as large as you want the mat to be.
- To finish off cut the remaining ends to about 5cm on a slight diagonal (the point will help). Fold the ends over as close to the square as possible and then feed the end into the existing weave, following the under over pattern. Do this for each end.



**Fruit Properties and Uses:** Hundreds of tiny dark brown, single cased seeds form on dangling heads. These are easily collected in a bag when ripe by pinching the head and running your thumb and finger down it, the seeds will fall off into the bag held below. The seeds are edible and were likely an important source of carbohydrate for our hunter-gather ancestors. The seeds from sedges are much safer to harvest than those from grasses because they do not get ergot like grasses do. Ergot is a fungus that can infect grain grasses and is poisonous if consumed. Sedge seeds can be toasted in a dry pan and added to breads or salads. To get the full nutritional value of them you need to break the seed casing by crushing the seeds (see recipe below).

### Recipe Ideas – Sedge Seedcakes

Harvest sedge seeds on a dry sunny day. Like all grains the sedge seeds will need to be processed by winnowing and milling.

**Winnowing** – is separating the grain from the chaff (its protective casing). To do this, place the seeds in a bowl, pick up handfuls and let them fall back to the bowl – if you do this outside when there is a light breeze it should be enough to blow to light chaff away. Alternatively, you could gently blow the chaff away as you drop the seed.

**Milling** – is the process of grinding the grain up. This can be done with a pestle and mortar or the traditional way between 2 flat stones – keep the bottom one still and move the upper one with your hand in a circular motion.

For a rough seed cake you only need to mill the grain enough to break its casing, but if you want to make flour then you will need some elbow grease to mill it much more finely.

To make seed cakes – mix in something to bind the grains, like an egg or some honey. Then form into little patties using your hands. These can be fried in a pan with a splash of oil or butter.

If you have milled the seeds more finely and made flour - this can be used just as you would wheat flour – to make breads, crumbles, pastry etc.



### 13. Plantain (*Plantago major*, *Plantago lanceolata*)



Plantain is a common sight in lawns, footpaths and even cracks in the pavement and considered by some as a weed. There are two common native plantains (and there are other less common and coastal species) Greater Plantain (*P. major*) has a broader rounder leaf compared to the long narrow leaf of Ribwort Plantain (*P. lanceolata*).

**Height:** All plantains have a flower head on a single stalk. Ribwort plantain can reach 10-40cm whereas the greater plantain's stem is a shorter 10-15cm (5).

**Leaf Properties and Uses:** All plantains have leaves arranged in a basal rosette with prominent linear veins, and smooth leaf margins. Greater plantain has broad, oval leaves with a leaf stem that is about as long as the leaf itself. Ribwort plantain has long, thin, lance-shaped leaves (5).

All parts of plantain are edible. It is high in calcium, vitamins A, C and K and also contains a carbohydrate called mucilage. However the leaves are quite tough and bitter raw.

Medicinally, plantain contains antihistamine and antimicrobial compounds, so combined with the soothing mucilage it makes a great natural first aid solution for insect bites and stings and also nettle stings. Make a simple poultice by chewing up a leaf and placing directly on the skin. It has a great ability to purify and draw out poisons. Its antihistamine effects make it beneficial for hay fever sufferers. Ribwort plantain is also effective at treating persistent coughs and chronic bronchitis (12).

#### Recipe Ideas – Plentiful Plantain

**Plantain Tea** – make an infusion (see page 10) from the leaves. Chopping them up will increase their surface area. This combines well with elderflowers as a hay fever remedy.

**Plantain Seed Stick Fritters** – Collect the seed heads of greater plantain, keep them long on their stem. Make up a pancake batter by whisking 4 oz. flour with 1 egg and ½ pint of milk. Dunk the seed heads in the mixture, ensuring they are well coated then deep fry in oil. Drain on kitchen paper. Eat like a miniature corn cob using the stem to hold on to.







**Flower:** The end of the upright flower stem holds a collection of tiny flowers in a blunt spike which on ribwort plantain is about 2-3cm long and greater plantain up to 10cm long. When in flower (May to September), the pale delicate stamens protrude from the brown flowers horizontally. The flowers of ribwort plantain have traditionally been used to make a natural 'pop gun' (see activity idea below).

**Fruit:** Numerous, small, oval, seeds which are green initially and then ripen to a dark brown on the flower spike. The seeds are edible raw and cooked and are very rich in vitamin B1 (12). The seed husks swell up and are absorbent, providing a good source of fibre. They can be used for digestive complaints such as constipation, stomach ulcers and irritable bowel (12).

### Activity Idea – Plantain Pop Gun

Invoke childhood memories of sitting in meadows and firing flower heads at your friends!

Collect the long flower stems of the ribwort plantain, with its short brown blunted flower spike at their tip. Take the base of the stem and fold it back on itself over the top of the stem just behind the flower spike. You should have made a circle with the stem with a fold around the top of the stem. To fire the 'gun' hold the stem with one hand and the folded part in the other, push the folded part forward towards the flower head in a smooth sharp motion. The force should 'pop' the flower head off a satisfying distance!

**Folklore:** Greater plantain particularly favours compacted, trampled ground. This inspired the Native Americans to call it 'white man's footprint' as it was one of the first plants to follow the European settlers. Its scientific name 'Plantago' is from 'planta' or the sole of the foot. The Anglo-Saxons called it 'waybroed' or 'waybread' as it grew by the way or path and was a nutritious snack! (12)

Plantain was one of the nine sacred herbs of the Anglo-Saxons (12).



## 14. Stinging Nettle (*Urtica dioica*)




The familiar nettle often gets abused as a tenacious and feisty weed! However, nettles are incredibly useful plants: as a vegetable they are rich in vitamins and minerals, treat a range of medical conditions and can be used to make string, cloth, paper and dyes. Nettles like soils rich in phosphates and nitrogen and so are attracted to grow where humans have settled. Our ancestors must have appreciated this seeing how nutritious and nurturing nettles are!

**Height:** Coarse, roughly hairy erect stems 30cm to 150cm (10). The stems of nettles are distinctly 4 sided, square in profile. All parts are covered in brittle stinging hairs which when broken release a cocktail of histamine and formic acid causing the

familiar skin irritation. The strong outer fibres of the stem can be used to make cordage (see activity idea below) and traditionally was used to make rope, sail cloths and textiles before the introduction of flax and hemp (10).

**Leaf Properties and Uses:** Leaves are arranged in opposite pairs and alternate up the stem. Arrow-head shaped, deep green in colour and coarsely toothed around their edges. Nettles are highly nutritious and tasty, extremely high in protein, iron and vitamin C. They can be used as a vegetable and cooked as you would spinach – lightly steamed or boiled in soups or stews. Be assured that heat destroys the stinging hairs! Traditionally nettle beer was a favourite country drink (10).

Medicinally, nettles are considered a blood tonic, clearing the blood of urates and toxins whilst replenishing minerals and iron levels (12). They dilate the peripheral blood vessels and promote elimination of urine, which helps lower blood pressure (12). Nettle tea can be used to treat gout and arthritis. They also reduce blood sugar levels and stimulate circulation, which supports treatment of diabetes (12). Interestingly, as well as containing histamine, nettles also have an anti-histamine effect – meaning they are their own remedy; you could crush a nettle leaf and use to relieve a nettle sting! Nettle tea can be used for treating hay fever and other allergies. They combine with elderflower well and can be used to reduce the severity of asthma attacks (12).



*"Tender-handed stroke a nettle,  
And it stings you for your pains;  
Grasp it like a man of mettle,  
And it soft as silk remains"*  
1753 Proverb



### Recipe Ideas – Superb Stinging Nettles

Harvest nettle tops in spring and early summer – take only the lush fresh tops and rinse if needed. Once the nettles have gone to seed they become woody and unpalatable. Wear gloves when collecting them to avoid getting stung, or follow the proverb and grasp them hard so that you break the needle like hairs before they sting you!

**Nettle Tea** – Add a couple of fresh nettle tops in a teapot per cup of boiling water. Leave for 15-20 minutes. Alternately, gently boil the nettle tops in a kettle over the fire. Add slice of lemon and honey to sweeten if desired.

**Nettle Soup** – Fry an onion in butter until soft, add about a litre of vegetable stock and several handfuls of fresh nettle tops. Puree, season and serve. Experiment with adding potatoes, cream or spices (nutmeg works well).

**Nettle Pesto** – Roughly chop a good handful of nettles, place in a food blender with some pine nuts, good splash of olive oil and grated parmesan. Blend until smooth. Keep in an air tight jar in the fridge. Mix into cooked pasta or spread on toast. In early spring you could also collect and add some Ramson/Wild garlic (*Allium ursinum*) to the mixture.

**Flowers:** Tiny greenish flowers develop in drooping catkin-like bunches from June to September (10). Nettles are dioecious and so the male and female flowers grow on different plants (5).

**Fruit:** Tiny seeds develop in the catkin-like clusters. Nettle seeds are considered to boost the adrenals and can be used to support kidney function and convalescence. They are also considered an aphrodisiac.

**Folklore:** The common name is thought to have been derived from the Anglo-Saxon 'noedl' meaning needle – either referring to the stinging hairs or to its fibres used to make thread before other plants were used (10).

Tibetans believe that their sage and poet Milarepa (AD 1052-1135) lived solely on nettle soup for many years, until he turned green! (12).





### Activity Idea – Nettle Cordage

#### **Harvesting the fibres**

1. Cut nettle stems of reasonable length at their base (use gloves if you don't like being stung!)
2. Trim/pick off the leaves.
3. Squash the stems by laying them on a flat surface and rolling a large stick over them.
4. Separate the outer stem fibres (green and flexible) from the inner stem fibres (pale/brown and pithy). Keep the outer fibres, discard the inner ones. Try to keep the fibres as long as you can.
5. Dry the fibres out at this point. If you braid them whilst they are still wet they will shrink and make gaps in your cordage!

#### **Making the string**

6. The fibres could be plaited in a normal 3 fibre plait – it will still be quite strong.
7. To braid into string requires careful twisting!
8. Take a piece of the fibre and 1/3 down its length grasp the fibre between each thumb and forefinger and start twisting in opposing directions – one hand twisting away and the other towards you (please see diagram below)
9. When the twists get tight a loop will be created and the 2 ends will want to wrap around one another. Keep twisting the fibres in the same direction, you will need to hold the end still whilst you twist but need to let go and allow the cord to twist around itself periodically.
10. When you are running out of an 'end' overlap the end with a new length of fibre and keep twisting it to secure it (see diagram below)
11. Keep going until your string is as long as you want it!



## 15. Willow (*Salix* sp.)



There are 9 native willow species to the UK (5) but many cultivars are grown commercially for the basket making industry. The most familiar natives are: goat willow (*S. caprea*) and grey willow (*S. cinerea*) – both of these have a broader, shorter leaf and are smaller shrub-like trees collectively known as ‘sallows’. Crack willow (*S. fragilis*), white willow (*S. alba*) and osiers (*S. viminalis*) have longer thinner leaves. The willow species freely hybridise with one another resulting in mixed features on some individuals.

All willows like moisture and are commonly found in wet woodlands and alongside rivers. They are highly adaptable and easy to propagate in wet areas by simply pushing a cutting into the ground.

**Height:** Crack and white willows can grow to be large trees to 25m tall (5). Osiers, goat and grey willows tend to be more shrub-like to 15m. Willows are often coppiced (cut at base to reshoot) or pollarded (cut above height of grazing animals) creating a multitude of long flexible stems. Some willows are more flexible than others – osiers is the species most commonly used for basket work.

**Leaf Properties and Uses:** White willow, crack willow and osiers have long narrow leaves which taper into a point. Grey and goat willow have broader more rounded leaves. White willow has hairy silver grey leaves, crack willow has hairless leaves at maturity, osiers has downy young twigs and leaves which have silvery silky hairs on the underside, goat willow also has downy young twigs and grey downy undersides to its leaves and grey willow has downy mature twigs and downy leaves all over. Most willows leaves are arranged on the stem on an alternate or spiralling pattern.

**Flower:** All willows have separate male and female catkins of varying sizes. The male ones are often yellow with the pollen-laden stamens protruding. The catkins flower in early spring and in some species, before the leaves are on the tree. In goat and grey willow, before the catkins come out into full flower they are covered by a greyish fur, leading them to be often referred to as ‘pussy willow’. The female catkins are often green or grey in colour and can appear knobbly, scaly or spikey. All willows will be in flower by April.



**Fruit:** The catkins ripen to numerous feathery seeds that together make a fluffy clump waiting for the wind to carry them to new grounds. Historically, these were collected and used to stuff mattresses (7).

**Bark Properties and Uses:** Large willow trees have deeply fissured grey to golden bark. The willows' bark are smoother, green-grey with diamond shaped fissures.

Fresh willow bark contains salicin, which in the human system breaks down into salicylic acid. This is an effective pain killer and also reduces inflammation so can be used to treat headaches, arthritis, rheumatism, and general aches and pains. Aspirin is the modern synthesised version of this. Willow bark has the benefit, that unlike aspirin it does not irritate the stomach or thin the blood (although people who are on blood medications or who are allergic to aspirin should seek professional advice before taking willow) (12). All willows contain salicin; however, it is the white willow which has been most commonly used for pain killing and fever reduction (10). It can be taken by simply chewing a piece of willow bark straight off the tree or could be decocted (boiled gently for about 20 minutes) into a tea. Willow bark is also very astringent so can be used to stem bleeding (12).

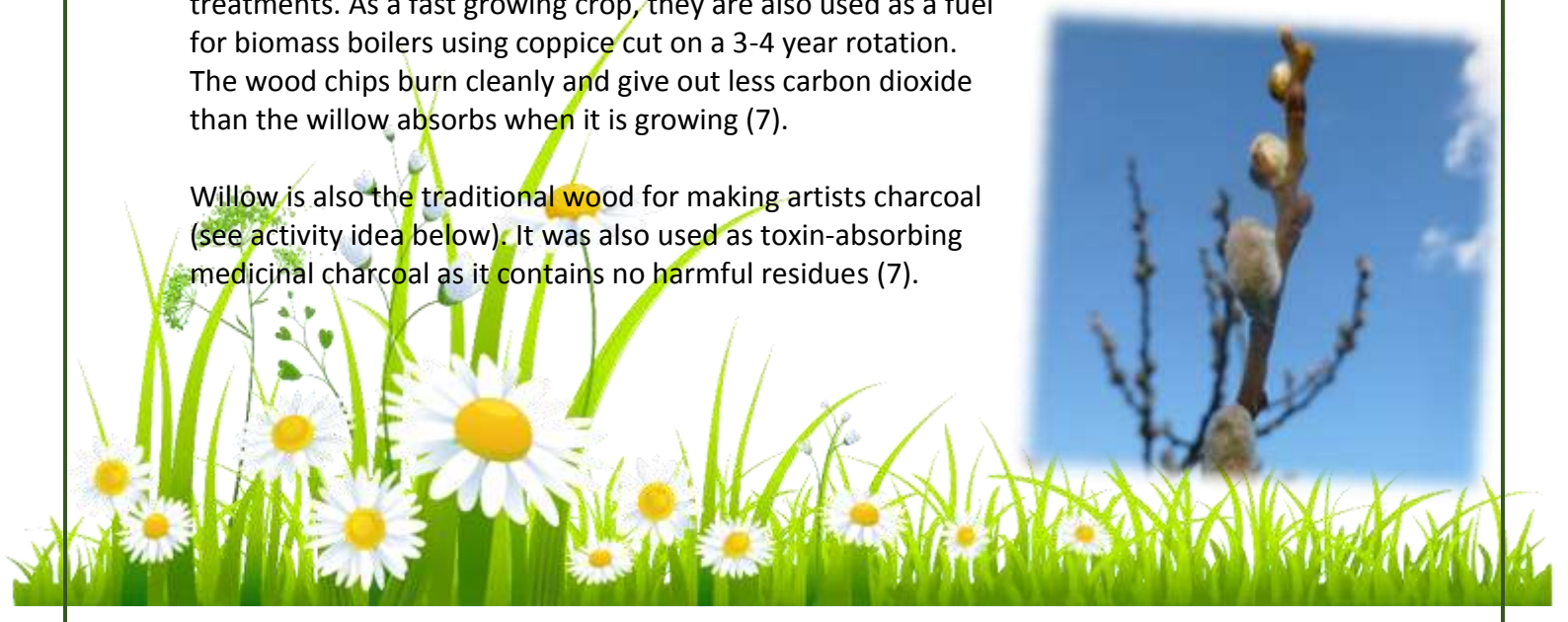
The inner bark of willows is also quite strong and can be used to make cordage. Cut a small diameter branch in the spring when the sap is flowing. Carefully scrape off the outer bark (the greeny coloured part) to reveal the pale inner bark. Carefully cut and peel the bark off the wood trying to keep it in long sheets. These bark sheets can be then cut down into thin strips and used as string as it is, or by twisting into cordage (see page 31). The bark will go stiff when it dries but it can be soaked in water to make it pliable again.

**Wood Properties and Uses:** Willow wood is soft and resistant to shock (7). These properties lend itself to the manufacture of cricket bats which are made from a cultivar of white willow. The wood also has a high moisture content so when seasoned becomes quite light.

Young stems of willow are flexible and have been used since Celtic times to make wicker products: baskets, fence panels, lobster pots, furniture etc. Willows are quick growing and commercially coppiced to ensure a sustainable supply of thin stems for weaving.

Nowadays willow beds are also used as part of eco-friendly wetland system sewage treatments. As a fast growing crop, they are also used as a fuel for biomass boilers using coppice cut on a 3-4 year rotation. The wood chips burn cleanly and give out less carbon dioxide than the willow absorbs when it is growing (7).

Willow is also the traditional wood for making artists charcoal (see activity idea below). It was also used as toxin-absorbing medicinal charcoal as it contains no harmful residues (7).







### Activity Idea – Willow Crafts

You can harvest fresh willow and use it straight away, or dry it and re-soak it (in a bath overnight) before use. When working with willow it is important to 'warm up' the fibres to encourage it to bend without it snapping. Do this by running your hand up and down the length, particularly on the thicker end of the stem. Gently push out a curve with your thumbs all along the length, you will need to repeat this several times on thicker pieces to make it bend without breaking.

**Willow Hoop** – Start by bending one rod (as described above) until it will uniformly bend into a circle. Take the thinner end and wrap it around the thicker end (almost like you were tying a knot). Continue wrapping around in the same direction until the end runs out. Take a second rod and start the thick end where the last one ran out and repeat the wrapping motion, always going in the same direction. Add as many rods needed in the same way. When finished cut off any excess stems poking out using secateurs. These hoops could be used as base for crowns, wreaths, dreamcatchers, mobiles, weaving frames or as a part of games such as hoopla, noughts and crosses etc.

**Pencil Holders** – Create a flat base by sawing a slice of wood (10cm diameter by 1cm thick works well for a pencil pot). Drill holes around the circumference of the wooden disc. They need to be the diameter of the willow you are using (about 5mm) and evenly spaced. You also need an odd number of holes. Take lengths of willow and push into the holes as uprights. Take thin lengths of willow and start weaving under, over, under, over all the way around the uprights until you run out. Add the next length starting with the thicker end and overlapping a bit of the thin end of the previous rod. Continue weaving until the walls of the pot are high enough. You will need to push the stems down occasionally to ensure a tight weave. To finish the last stem, wrap it around one of the uprights and fold it back the other way, poking the end into the weave to secure it. Trim any unwanted ends. You could add a handle to this to make a simple basket (see picture).

**'Stained Glass' Willow Sculptures** – Once you understand the basics, you can bend the willow into various shapes and make all sorts of things. You can use masking tape or string to hold shapes in place and coloured tissue paper and pva glue to coat the structure. Two dimensional shapes could be hung up by a winder to make 'stained glass' or three dimensional shapes could be illuminated with torches or fairy lights.



**Folklore:** The scientific name '*salix*' is derived from the Celtic '*sal lis*' meaning near water, describing its preferred habitat (10). The Anglo-Saxon word for willow was '*welig*' which means pliant, referring to its flexible virtue (8).



It is considered the tree of immortality – perhaps due to its adaptable nature to grow from a fallen branch or twig pushed into the ground (8). It is also believed to promote intuitive powers and visionary skills. Poets, musicians and priests would meditate in willow groves hoping to gain inspiration. Perhaps this is another reason why artists still prefer willow charcoal? (8)

### Activity Idea – Artists Charcoal

Charcoal is made when you burn wood with limited oxygen, so it does not fully burn. You can make charcoal from any tree species, but willow is the one traditionally used for artist charcoal. Do remember, if doing this with groups to ensure you have risk assessed all activities, that it is appropriate for the group and you have adequate supervision and safety equipment around the fire.

- Take an old metal tin (a syrup tin works well) and punch a hole in the lid.
- Carve a wooden stopper that will fit in the hole – this could simply be a stick that fits.
- Cut lengths of thin willow sticks so that they will fit in the tin. You can do it with the bark on or off – experiment!
- Fill the tin and fit the lid on securely.
- Place the tin in the fire.
- The charcoal will be ready once the smoke coming out of the hole goes clear – this is usually about 20 minutes for a treacle tin sized amount.
- Remove from the fire and put the stopper in the hole. This prevents the charcoal re-igniting through oxygen coming in the hole.
- When cool enough, remove the lid and behold your charcoal!
- If it is not all black yet you can replace the lid and return to the fire for a bit longer.
- Let the sticks cool and then draw away with them!
- You could also make 'pencils' by mounting some of the charcoal sticks into lengths of elder. Cut a pencil length of elder, remove the pith at one end and push the charcoal stick into the hole. Sharpen the 'pencil' with a knife as a normal pencil.



### Natural First Aid

Worried about what to do if you are out in the wilds and have an injury- don't worry, nature will provide! There is a first aid kit growing all around you if you know where to look!

<b>Injury or Condition</b>	<b>Plant Species &amp; Use</b>
Insect stings & bites. Nettle Stings	<ul style="list-style-type: none"> <li>• Ribwort Plantain (<i>Plantago lanceolata</i>) - crush up or chew leaf and apply as poultice. (Greater Plantain also works (<i>P. major</i>) but not as effective)</li> </ul>
Cuts & minor wounds	<ul style="list-style-type: none"> <li>• Yarrow (<i>Achillea millefolium</i>) - use the fresh bruised leaf to stem bleeding (particularly nosebleeds).</li> <li>• Herb Robert (<i>Geranium robertianum</i>) - use fresh crushed leaf as a poultice.</li> <li>• Sphagnum moss (<i>Sphagnum spp.</i>) - is very absorbent and been used commercially as a wound dressing.</li> <li>• 'Plasters' can be made from Birch polypore (fungi) - cut a strip from its rubbery outer layer</li> </ul>
Bruises & swellings	<ul style="list-style-type: none"> <li>• Daisy (<i>Bellis perennis</i>) or Elder (<i>Sambucus nigra</i>) - use mashed fresh leaves or make an ointment.</li> </ul>
Burns Sunburn	<ul style="list-style-type: none"> <li>• Cleavers (<i>Galium aparine</i>) or Plantain (<i>Plantago sp.</i>) - use mashed up leaf as a poultice.</li> <li>• Elderflower (<i>Sambucus nigra</i>) distilled water</li> </ul>
Indigestion	<ul style="list-style-type: none"> <li>• Meadowsweet (<i>Filipendula ulmaria</i>) - flowers fresh or dried infused for 5 mins.</li> <li>• Mint (<i>Mentha spp.</i>) - fresh leaves infused for 3 minutes.</li> </ul>
Pain relief	<ul style="list-style-type: none"> <li>• Willow (<i>Salix spp.</i>) - chew bark for gentle pain relief (headaches and toothache) or make a decoction.</li> </ul>
Hay fever	<ul style="list-style-type: none"> <li>• Plantain (<i>Plantago spp.</i>), elderflower (<i>Sambucus nigra</i>), and/or nettle (<i>Urtica dioica</i>) - as an infusion. Some people suggest that eating a spoonful of local honey each day reduces hay fever symptoms.</li> </ul>
Cleaning – soap/shampoo	<ul style="list-style-type: none"> <li>• Many plants contain saponins which act as natural soaps - conkers and leaves from horse chestnut (<i>Aesculus hippocastanum</i>), chickweed (<i>Stellaria media</i>), birch (<i>Betula spp.</i>) leaves, red and white campion leaves (<i>Silene spp.</i>)</li> </ul>
Toothbrush	<ul style="list-style-type: none"> <li>• Oak (<i>Quercus robur</i>) twigs have natural antiseptic and anti-inflammatory properties - chew the end to fray it then massage gums and clean teeth.</li> </ul>





## 16. References

1. Dr M Goes Wild (02.08.13) How many vascular plants are there in Britain? <http://drmgoeswild.com/how-many-plant-species-are-there-in-britain> (Accessed 5.8.17)
2. The Guardian (07.07.10) First Humans Arrive 250,000 years earlier than thought. <https://www.theguardian.com/science/2010/jul/07/first-humans-britain-stone-tools> (Accessed 5.8.17)
3. Dr R Bragg et al (September 2015) Wellbeing Benefits from Natural Environments Rich in Wildlife. [http://www.wildlifetrusts.org/sites/default/files/wellbeing-benefits-fr-nat-env-report-290915-final-lo\\_0.pdf](http://www.wildlifetrusts.org/sites/default/files/wellbeing-benefits-fr-nat-env-report-290915-final-lo_0.pdf) (Accessed 5.8.17)
4. Gardening Know How (No Date) Antidepressant Microbes in Soil: How Dirt makes you Happy. <https://www.gardeningknowhow.com/garden-how-to/soil-fertilizers/antidepressant-microbes-soil.htm> (Accessed 5.8.17)
5. Rose, F. (1981) The Wild Flower Key. British Isles – N.W. Europe. Fredrick Warne
6. The Woodland Trust. (No Date) Silver Birch (*Betula pendula*). <http://www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/british-trees/native-trees/silver-birch/> (Accessed: 4.4.16)
7. Warren, P. (2006) British Native Trees – Their past and present uses. Wildeye.
8. Gifford, J. (2000) The Celtic Wisdom of Trees – Mysteries, Magic and Medicine. Godsfield Press.
9. Paterson, JM (1998) A Tree in your Pocket. Thorsons
10. Phillips, R & Foy, N (1990) Herbs. Pan Books Ltd.
11. Phillips, R. (1983) Wild Food. Macmillan
12. Bruton-Seal, J & Seal, M (2008) Hedgerow Medicine. Merlin Unwin Books.
13. The Woodland Trust (No Date) Pendulous Sedge <http://www.wildlifetrusts.org/species/pendulous-sedge> (Accessed 5.8.17)

**Photographs:** All photos are copyright of Louise Ambrose, unless otherwise stated.



## 17. Further Reading

### Children & Nature:

- The Children & Nature Network – <http://www.childrenandnature.org/>
- Last Child in the Woods, Save our Children from Nature Deficit Disorder by Richard Louv, ISBN – 1848870833
- Natural Childhood Report by the National Trust - <https://www.nationaltrust.org.uk/documents/read-our-natural-childhood-report.pdf>
- Every Child Outdoors by RSPB - [https://www.rspb.org.uk/Images/everychildoutdoors\\_tcm9-259689.pdf](https://www.rspb.org.uk/Images/everychildoutdoors_tcm9-259689.pdf)

### Risk Management:

- The Health & Safety Executive - <http://www.hse.gov.uk/risk/controlling-risks.htm>
- Rethinking Childhood – Tim Gill’s - <https://rethinkingchildhood.com/>
- No Fear, Growing up in a Risk Adverse Society by Tim Gill, ISBN - 1903080088
- Nothing Ventured, Balancing risks and benefits in the outdoors by English Outdoors Council - <http://www.englishoutdoorcouncil.org/wp-content/uploads/Nothing-Ventured.pdf>

### Species Identification:

- I spot - <https://www.ispotnature.org/>
- The Woodland Trust - <https://www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/british-trees/>
- Plantlife - <http://www.plantlife.org.uk>

### Foraging:

- Eat Weeds - <https://www.eatweeds.co.uk/>
- Fergus the Forager - <http://fergustheforager.co.uk/>

### Herbal Remedies:

- Hedgerow Medicine - <http://www.hedgerowmedicine.com/>
- A Modern Herbal – <http://www.botanical.com>

Pack written by Louise Ambrose, Birchwood Learning © 2017

