

# Forest Challenge



## Challenge Badge: Forests

### Welcome to the

# Forest Challenge Badge



Thanks to Midlothian Guide leaders Tina Misselbrook and Sally Smith for the ideas. To Kate Walters at Magenpie and designer Ian Kirkwood for developing those ideas.



#### What is it?

The Forest Challenge is our exciting new badge to celebrate the importance and magic of trees and forests in our lives. It is for all sections; Rainbows, Brownies, Guides and The Senior Section.

#### How do we get involved?

The challenge can be done at regular unit meetings, ideally using a local park — anywhere where there is a patch of trees! It can be done at any time of the year, although some of the activities will be easier when the trees have leaves on.

#### How does it work?

The Challenge is in 2 sections:

 The table of activities with four themes along the top: trees, life in the forest, forest products and caring for forests with the number of the activities coloured for relevant section e.g. 1.1 for Rainbows and 4.5 for Guides.

Rainbows: choose three Rainbow activities.

Brownies: choose four Brownie activities (from at least 2 different sections).

**Guides:** choose five **Guide** activities (from at least 3 different sections).

The Senior Section: choose six Senior Section activities (including 1 from each section).

2. **Resources:** There are some helpful ideas and links to websites in the resources section.

The numbers refer to the number of the activity in the table, therefore 1.1 is for Rainbows and 4.5 is for Guides.

#### What happens once we've taken part?

Your unit can receive our exclusive Forest Challenge Badge.

They are priced at £1 each and are available from Girlguiding Scotland shops and online at https://shop.girlguidingscotland.org.uk/



#### Section 1 Trees

#### What is a tree?

- 1.1 Explore the different parts of a tree with your senses.
- 1.2 Make a collection of information about your tree e.g. bark rubbings or leaf records.

#### What lives on a tree?

2.1 Explore the life on and in a tree (make sure you check out dead wood too!)

Section 2

Life in the forest

2.2 Make a survey of what life there is on some different trees and collect evidence of it; photographs, drawings, words, sounds... whatever way you choose.

## Section 3 Forest products

#### Forest flavours

- 3.1 Find out 10 things that we can eat or drink that come from trees. Taste some foods that come from trees, or drinks flavoured by things from the forest.
- 3.2 Make a 'forest meal' for someone else made from woodland foods and things to drink.

# Section 4 Caring for forests

## What do trees need to be healthy?

- 4.1 Learn about what trees need to be able to survive (water, sunlight, somewhere to put their roots). Draw a picture to explain it.
- 4.2 Plant a tree! Buy a sapling or gather some seeds and grow one. Look after and care for your tree.

#### Adopt a tree

- 1.3 Your Special Tree:
- a. Play the 'Meet a Tree' game to find a special tree.
- b. Identify the tree.
- c. Ask yourself some questions to find out more about it: Is it a conifer or deciduous tree? How tall is it? How old is it? Are there any other trees the same nearby?

You must complete all of 1.3

1.4 Identify other trees near to your special tree by keeping a notebook of the features that helped you to identify them. Draw a map of the area of woodland around your special tree on a homemade map.

### Woodland layers and their life

- 2.3 Find out what is living in different levels of the woodland: soil, grassy layer, shrub layer and canopy layer. Identify some of of the things you discover and try to work out what role they play in the woodland.
- 2.4 Design and make your own woodland invertebrate to take on a bugs-eye walk of journey through the woodland.
- 2.5 Help provide the birds with some food by making bird feeders for your local area or garden.

#### Stick creations

- 3.3 Make something out of wood... a journey stick, a fairy house or mini-den, or play a game like pick-up-sticks! Where have the sticks come from? Have you had to prepare the stick for what you want to use it for?
- 3.4 Willow twigs (withies) are very bendy. Use some to weave into something like a basket, hurdle, sculpture or lantern (make them some with friends and have a parade!)

#### Local woods and history

- 4.3 Visit a local wood. How long has it been there? What has happened to the trees over time? What is the wood used for now? Can a local person, historian or forester help you to find out more?
- 4.4 Describe the history of the woodland to someone else (maybe through writing, drawing, drama or song!)

#### How a tree works?

- 1.5 Play the 'Build a Tree' game. Using a diagram or a real piece of wood, find out how a tree works from its roots to the very top.
- 1.6 Be a real scientist! Choose a 'citizen science' survey that you can add a tree record to. Carefully gather the relevant information about your chosen tree (or trees) and then upload it online.

#### What lives in the forest?

- 2.6 What signs can you use to detect the other creatures that live in a woodland, such as birds or mammals (sounds, tracks, food, feathers, scat (poo))? Collect evidence by taking photographs, notes, drawings, clay footprints or any other ways you can find that don't damage the environment.
- 2.7 Native woodland tends to support more biodiversity than non-native woodlands. Explore what 'woodland biodiversity' means and what is meant by 'native' and 'non-native' woodland.. Visit an area of woodland near you and try to work out what type of woodland it is from what you have learned.

#### Exploring wood

- 3.5 Make a 'wood product trail': Go for a walk in the local woods and take a list of some things we get from forests with you. What can you add?
- Make 1 practical item and 1 decorative item out of wood. Try to use some knots and lashings to help you.
- 3.6 Think about how you and other people can enjoy the woods in different ways as well for beauty, inspiration, exercise or relaxation. Choose a new way to enjoy the woods and try it out. Share what you have done with others.
- 3.7 Make a small 'leave no trace' fire and try to make some artists charcoal on your campfire. Use your homemade charcoal to draw a sketch of something in the woodland or crush it up to use as paint.

#### Protecting forests

- 4.5 Investigate how your local woods have changed over time and what has threatened or saved them. How are they protected / looked after (managed) now? What could you do to support woods yourself?
- 4.6 Help to actively look after local trees or woodland by working with the local ranger, a conservation / wildlife group or the landowner. Learn from them how to safely use some tools such as loppers and a bowsaw to help you.
- 4.7 Invite someone from the forest industry to talk about the variety of job opportunities in modern day forestry.

#### Tree talk

- 1.7 Plan and lead a tour for Rainbows, Brownies or Guides around a local woodland area
- 1.8 Make a resource to help other people understand the trees there (a leaflet, key, guide, poster, app or any other form of tree identification or interpretation guide you think is appropriate)

#### Threats to forest life

- 2.8 What are native and non-native tree species, and why does it matter? Imagine you are going to plant a new woodland which species would you choose and why? Create a plan of your new wood.
- 2.9 Pests and illness can threaten our forests. Find out about some diseases that trees can have and what pests can harm them? What can we do to help? Share this information with others (Please report any evidence of pests or diseases you find).

## Fire — threats and opportunities

- 3.8 Learn about what can happen to a forest when fire gets out of control. Find a safe spot to make a small fire and leave no trace of it afterwards. Teach others how to do this or share your new knowledge more widely.
- 3.9 Research how different types of charcoal are made. Find out about different methods of cooking on charcoal from around the world and use one method to cook a meal for other girl guides. The sustainability of the materials you use should also be a consideration.

### Opportunities to work with trees and forests

- 4.8 Investigate the types of job available in the forestry industry. What roles can women do in forestry today? Report this back to a local Guide or Senior Section unit.
- 4.9 Investigate the role women played in the world wars to help provide timber. Report this back to a local Guide or Senior Section unit.

## Resources

# Section 1 Trees

#### 1.1 Exploring with your senses

Using all of your senses to explore a place gives you a different experience of it. Try to find a woodland or patch of trees close to where you live (or go to school) so that you can go back to it in different seasons to see what changes.

**Smell:** Gather some natural things from the woodland and crush them to find out how they smell.

**Sight:** Use magnifying glasses to look at different parts of the trees up close. Then use binoculars or a mirror to help you look up high! Draw pictures or take photographs of the things you see.

Touch: Try to find things that feel different to each other - for example 'soft & hard' or 'rough & smooth'. What other words can you think of? Share them with your friends and see if they can guess them too!

**Sound:** Find somewhere quiet to sit, a little way away from your friends, and listen to the sounds in the woodland for at least 5 minutes.

#### 1.2 Bark and leaf rubbings

Build up a collection of different leaf types and shapes, or a variety of bark patterns. You will need some A4 paper and a chubby crayon. Place the paper onto the bark of a tree and rub over it with the long edge of the crayon to get a rubbing of the bark pattern. Are all trees the same? Take rubbings from different types of tree to compare.

If you have some clay, you could use it to take a 3D-print of the patterns and then perhaps turn them into natural jewellery. You could paint the leaves and print them onto fabric, or even 'bash' them onto the fabric to make leaf patterns (also known as 'Hapa Zome') to make a beautiful cloth reminder of the woodland.

#### Leaf (or bark) rubbing

www.woodlandtrust.org.uk/naturedetectives/activities/2016/08/leaf-rubbing/

#### Leaf bashing ('Hapa Zome')

www.playengland.org.uk/resource/nature-play-activity-recipes/

#### Leaf printing on fabric

http://artfulparent.com/2010/05/printing-leaves-on-fabric.html

#### Clay leaf pendants

http://artfulparent.com/2015/06/clay-leaf-prints.html

#### 1.3 / 1.4 Your special tree

#### a. How to play 'Meet a tree'

A good way to find out about something is to get close to it! With a friend, help each other to 'meet a tree' without the use of your eyes. One person is blind folded (or shuts their eyes tight) and led to a tree. The person them feels the tree — all around the trunk, up to any branches or leaves they can reach, and down to any roots they can touch — until they are sure they know that tree really well. They are led away again. Once the person has opened their eyes, find out if they can guess which tree it was they were taken to meet!

#### How to 'Meet a Tree'

www.sharingnature.com/nature-activities.html

#### b. Tree ID charts

Use an identification chart (also known as an 'ID chart') to help discover which trees are around you.

#### Nature detectives 'Leaf ID"

www.woodlandtrust.org.uk/naturedetectives/activities/2015/09/leaf-id/

#### **OPAL Explore Nature guides**

www.opalexplorenature.org/identification

#### c. Tree Measuring

#### How to measure height and age

http://owlscotland.org/resources/ (and type in
'tree measuring' to the keyword search)

#### 1.5 Build a tree

Learn how a tree really works by pretending to be all the parts of a tree with your friends!

#### How to play 'Build a Tree'

www.forestsforthefuture.co.uk/unit-overview/unit-2/activity-2-1

#### How a tree works (pdf)

www.forestry.gov.uk/pdf/wm-treeworks.pdf/\$FILE/wm-treeworks.pdf



#### 1.6 Citizen science

Citizen science is the name for real-life science studies that anyone can get involved with! Record your tree information and upload it to an online study (check first to see what information they need; they may have helpful resources online for you to download too):

#### Nature's Calendar

www.naturescalendar.org.uk/

#### Track-A-Tree

http://trackatree.bio.ed.ac.uk/

#### **OPAL Explore Nature**

www.opalexplorenature.org/

#### 1.7 Tips for planning a tour

Find out some interesting facts or invent some imaginary tales about your local woodland. Share them with others by taking a local Rainbow, Brownie or Guide unit on a tour.

#### The Art of Being a Good Tour Guide

http://youthfortourism.eu/meetings/trikala/how-to-be-a-good-tour-guide

#### How to Lead Guided Walks

http://naturenet.net/education/guidedwalks1.
html

#### 1.8 Woodland interpretation

#### **Woodland Interpretation Toolkit**

www.woodlandtrust.org.uk/ mediafile/100698690/Ancient-woodlandrestoration-interpretation-toolkit.pdf

#### Canal and River Trust - Interpretation Toolkit

https://canalrivertrust.org.uk/media/library/9817-interpretation-toolkit.pdf

# Section 2 Life in the forest

#### 2.1 / 2.2 / 2.3 Life in layers

These resources will help you to look and identify the life in, on & around trees.

### OPAL Explore Nature identification guides

www.opalexplorenature.org/identification

#### Minibeast Activity booklet (pdf)

www.stickinsect.org.uk/minibeast%20ideas.pdf

#### **Deadwood Survey**

www.growingschools.org.uk/Resources/ Downloads/The%20Deadwood%20Survey.pdf

#### 2.4 A bugs-eye view of the world

#### How to make a mini-woodland

www.woodlandtrust.org.uk/naturedetectives/activities/2016/08/mini-woodland/

#### 2.5 Making bird feeders

There are lots of ways to make a bird feeder out of natural or recycled materials. (Note: If you are putting the feeders in a woodland, make sure the seeds have been crushed first so that they don't start to grow in the forest if they fall out onto the woodland floor.)

#### Different ideas for making a bird feeder

www.rspb.org.uk/discoverandenjoynature/families/children/makeanddo/activities/index.aspx

Girlguiding Scotland's Outdoor Fun Pinterest board https://uk.pinterest.com/GirlguidingScot/ outdoor-fun/

#### 2.6 Other animals of the woodland

#### Animal tracks ID

www.woodlandtrust.org.uk/naturedetectives/activities/2016/03/animal-track-id/

#### **RSPB Bird Identifier** (includes sounds)

www.rspb.org.uk/discoverandenjoynature/discoverandlearn/birdidentifier/

#### Discover Wildlife: guide to droppings

www.discoverwildlife.com/british-wildlife/ naturalist-skills/free-animal-droppings-id-guide

#### Trees, woods and wildlife

www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/

# 2.7 / 2.8 Native and non-native tree species

Native tree species in Scotland are those which are believed to have arrived naturally (without human help). Most of the tree species we call 'native' are ones which colonised Scotland after the last Ice Age (which ended roughly 9,000 years ago). Their seeds would have been dispersed by wind, water and animals. But why does that matter? Find out more about the issues.

#### **Native Scottish Trees**

www.native-scottish-trees.org.uk/

#### **British Trees**

www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/british-trees/

#### **Timber Species**

www.woodcampus.co.uk/wp-content/uploads/2014/03/Choose-and-Use-Timber-Species.pdf

#### **Action for Scotland's Native Woods**

www.forestry.gov.uk/pdf/fcfc116websmaller.pdf/\$file/fcfc116websmaller.pdf

#### What are Scotland's native woodlands?

http://scotland.forestry.gov.uk/supporting/ strategy-policy-guidance/native-woodlandsurvey-of-scotland-nwss/scotlands-nativewoodlands

#### **Woodland Habitats**

www.wildlifetrusts.org/wildlife/habitats/woodland

## Native and Non-Native species: how and why to choose

www.forestry.gov.uk/pdf/LRU\_BPG08.pdf/\$FILE/LRU\_BPG08.pdf

#### 2.9 Diseases

What diseases can trees have? What makes them susceptible to illness? Can we tell if trees are poorly trees just by looking at them? These websites will help you find out more.

OPAL Explore Nature: Tree Health survey www.opalexplorenature.org/treesurvey

Observatree: Monitoring Tree Health

www.observatree.org.uk/

Tree Alert: Tree Pests and Diseases www.forestry.gov.uk/treealert

# Section 3 Forest products

#### 3.1 Food from trees

Tree fruit, nuts, and even some flowers and leaves are edible. Make sure you only eat wild foods that a responsible adult says are safe. Remember to only take what you will use and pick carefully so that it has a minimal impact on the plant. If you are unsure, buy from a shop instead.

Nuts: Hazel

Fruits: Elderberry, hawthorn berries, sloe

(from blackthorn), crab apples

Flowers: Elderflower Leaves: Lime, hawthorn

Other woodland food: Bramble (blackberries), wild strawberries and raspberries, sorrel, nettle (young), blaeberries, wild garlic (ramsons)

#### Sustainable Foraging

www.snh.gov.uk/planning-and-development/ economic-value/rural-enterprise/foraging/

#### 3.2 Forest meal

#### Foragers Feast (pdf)

www.naturescalendar.org.uk/NR/rdonlyres/35DC91B9-4A53-4C17-85A3-7EC605A40731/0/Foragers\_Feast\_recipe\_booklet.pdf



#### 3.3 / 3.5 How to make things from sticks

Sticks can be used to make lots of things in the forest! You could make a record of a journey by tying natural things to a stick with some wool to create a journey stick; you could build a fairy house or mini-den; or play a game with friends such as pick-up sticks or pooh sticks. If you take some string with you (ideally string made from natural materials like sisal or wool) you could tie some sticks together and create a picture frame. Useful knots for this might be a clove hitch and a timber hitch.

If you have someone who could help you to saw wood into 'cookie' slices and drill holes in them, you could start to make all sorts of different things — from wooden necklaces to your own woodland creatures! Wood from the Elder tree is good to make things from as the soft 'pith' in the centre is easily poked out, leaving a hollow stick that can be cut into beads or used to make a wooden whistle.

Making a Journey Stick (pdf) www.snh.gov.uk/docs/A402705.pdf

#### 20 things to do with sticks

www.woodlandtrust.org.uk/naturedetectives/activities/2015/11/20-things-to-do-with-sticks/

### Animated knots website

www.animatedknots.com/

#### How to make an Elder whistle

www.jonsbushcraft.com/elderwhistle.htm

#### 3.4 / 3.5 Willow weaving

Twigs from willow trees are often very bendy and so are perfect for weaving. These thin twigs are known as withies. You can either buy some specifically for weaving or find some growing locally to harvest and use. Remember, if you are gathering your own make sure you check with the landowner first. Also make sure that it is a flexible variety before you cut it otherwise the twigs will just snap when you try to shape them.

#### How to weave a basket

www.jonsbushcraft.com/basicbasket.htm

#### Making a willow candle lantern

www.edenprojectcommunities.com/stuff-to-do/ start-lantern-parade (page contains link to willow lantern making instructions)

#### Weaving a hurdle (low fence)

https://homefarmer.co.uk/making-willow-hurdles/

#### 3.5 Wood product trail

Do you know how many things we get from trees in our daily lives? Find out just how much, starting with some of these links!

#### Plants in our lives

https://schoolgardening.rhs.org.uk/resources/ Info-Sheet/Plants-in-our-daily-life

#### Only Made of Wood (large powerpoint)

http://owlscotland.org/resources/resource-library/only\_made\_of\_wood/

#### **Tree Products**

http://owlscotland.org/images/uploads/resources/files/treeproducts\_1.pdf

#### Stories, myths and folklore

http://treesforlife.org.uk/forest/mythology-folklore/

#### **Tree Stories**

http://owlscotland.org/images/uploads/resources/files/TreeStories.Sep19.web.pdf

#### 3.6 Enjoying forests

The wooded areas in the UK are increasingly being seen as a valuable space for people as well as wildlife and timber, for example. The range of opportunities to enjoy forests is growing! Here are some suggestions to get you started but you may have lots more ideas of your own.

#### Things to see and do in woods and forests

www.visitscotland.com/see-do/landscapes-nature/forests-woodlands/

#### Exploring woods: things to do

www.woodlandtrust.org.uk/visiting-woods/things-to-do/

#### Activities to do in forests

http://scotland.forestry.gov.uk/activities

#### Woodland Workout (pdf)

www.forestry.gov.uk/pdf/FCMS112.pdf/\$FILE/FCMS112.pdf

#### 3.7 / 3.8 Fires

Out-of-control fires cause a huge amount of damage to trees, forests and wild places every year, costing not only money, but harming our natural environment too. When you are building fires, always make sure you are being as responsible as you can be. Follow the advice of the Scottish Outdoor Access Code and learn how to make 'Leave No Trace' fires so that you do not damage the woodland.

#### **Scottish Outdoor Access Code: Fires**

www.outdooraccess-scotland.com/Practicalguide/public/lighting-fires

'Leave No Trace' fires (ideas on how to do it) http://paulkirtley.co.uk/2011/how-to-leave-no-trace-of-your-campfire/ and http://creativestarlearning.co.uk/personal-holidays/leave-no-trace-fires/

#### Making artist's charcoal

You can make your own drawing charcoal on a campfire by packing a metal tin full with pencilthick twigs of willow (not too fresh). Make sure there is a small hole in the lid to let out the hot gases so that it does not explode! Smoke will start to come out of the hole as the willow chars — when the colour of the smoke changes (less grey/blue, more clear), carefully remove the tin from the fire with fire gloves or tongs and plug the hole with a small twig. This stops it burning any more. Once it is cool, open the lid and have a look! There are plenty of videos online where you can see this process before you try (american websites will tell you to use 'vines', but just use willow sticks).

#### 3.9 Charcoal

Charcoal is made by slowly heating wood in the absence of oxygen. This means that it 'chars' but does not burn. What is left is a lightweight chunk of carbon and ash that has many uses! Common modern uses include fuel for barbecues, a drawing material for artists, medicine for absorbing poisons, filtering things in manufacturing (i.e. sugar, wine, water) and a soil improver for gardeners. Charcoal is made in different ways (and of different materials) depending upon its intended use.

#### The History of Charcoal Making (pdf)

www.silvanustrust.org.uk/uploads/3C%20 Workshop%20Learning%20pack.pdf

#### How to make lumpwood charcoal

www.woodlands.co.uk/blog/practical-guides/how-do-you-make-charcoal/

#### Forest Stewardship Council

www.fsc-uk.org/en-uk



# Section 4 Caring for forests

#### 4.1 What healthy trees need

Tree Care guide (pdf)

www.forestry.gov.uk/pdf/eng-treecare-guide.pdf/\$FILE/eng-treecare-guide.pdf

#### 4.2 Tree planting information

Getting free trees (saplings) for your school or community

www.woodlandtrust.org.uk/plant-trees/

Help AND support for planting trees

www.woodlandtrust.org.uk/plant-trees/help-and-support/

How to gather tree seeds

www.treecouncil.org.uk/Take-Part/Seed-Gathering-Season

#### 4.3 / 4.4 / 4.5

#### How to find woodland to visit

The Woodland Trust has a map that will show you many of the woods near where you live and the Scottish Outdoor Access Code will help you know your rights & responsibilities when you are out.

Finding woods to visit

www.woodlandtrust.org.uk/visiting-woods/

**Scottish Outdoor Access Code** 

www.outdooraccess-scotland.com/

# 4.5 History of forests and protecting their future

The amount of woodlands in Scotland has fluctuated during human history. Maps made during the Roy Military Survey can be used to help us compare how woodland cover has changed today from nearly 300 years ago.

Roy military maps of Scotland (1747-1755) http://maps.nls.uk/roy/

#### History and ancient woodlands

www.snh.gov.uk/land-and-sea/managing-the-land/forestry-and-woodlands/history/

Scotland's woodland and the historic environment (pdf) www.forestry.gov.uk/pdf/fcfc123.pdf/\$FILE/fcfc123.pdf

Human impacts on the Caledonian forests http://treesforlife.org.uk/forest/humanimpacts/

#### Ways to protect woodlands

www.woodlandtrust.org.uk/about-us/woodland-protection/

#### Tree preservation orders (TPOs)

http://planningguidance.communities.gov.uk/blog/guidance/tree-preservation-orders/tree-preservation-orders-general/

Types of nature conservation protection (called 'Designations')

http://naturenet.net/status/

# 4.6 Woodland management and conservation

The best way to get involved in woodland management is to find a local group of wildlife or conservation volunteers to join in with. They will provide all the tools and be able to teach you how to use tools safely. Plus they will already have permission from the landowner to do the tasks. However, if you know how to use tools safely, and you know the local landowners, you could ask them if there are any simple woodland management tasks they would like help with.

The Conservation Volunteers (TCV) www.tcv.org.uk/

The Green Team (Edinburgh & Lothian's) https://greenteam.org.uk/

(there may be other similar groups for young people in your area)

#### 4.7 Jobs in forestry

#### Forestry Commission Scotland

http://scotland.forestry.gov.uk/

#### **Forestry Career Route Map**

http://forestry.careerroutemap.com/

#### 4.8 / 4.9 Women in forestry

Here are some sources of information about the role of women in forestry through to current times. There is a lot of discussion happening on blogs and forums on the internet too - search for 'women in forestry' or 'women in arboriculture'.

Women's Forestry Service: World War 1

http://ww100.publishingthefuture.info/industry/

Women's Timber Corps: World War 2 -

The 'Lumberjills'

http://scotland.forestry.gov.uk/activities/ heritage/world-war-two/womens-timber-corps

#### Women in Forestry article

http://scotland.forestry.gov.uk/news/1201-women-in-forestry

### Gender and Diversity in Forestry

in Scotland (pdf)

www.confor.org.uk/media/246063/confor-gender and diversity inforestry in scotland feb 2016.pdf





Buy your Forest Challenge badges at Girlguiding Scotland's Edinburgh and Glasgow shops or online at

https://shop.girlguidingscotland.org.uk/

We'd love to hear what your unit gets up to! Tweet us at @GirlguidingScot using #forestchallenge, find us on Facebook or email yourstories@girlguiding-scot.org.uk





