

From small Acorns...



A practical tree conservation project









From small acorns...

Introduction

Environmental concerns are shared by both the young and the old generations alike. With a more recognisable shift in our climate being realised and the effects this brings, todays generation have become more vocal and proactive in raising these concerns and stepping up to the challenges involved in making a difference.

As the saying goes... "from small acorns... grow great mighty oaks", taking small steps now means we offer the chance to make a big difference in the future. Planting trees to assist and aid us with the changes that our climate is experiencing is seen as not only a practical response, but a necessary one when looking for ways to tackle the issues that we face.

'Trees are the ultimate carbon capture and storage machines. Like great carbon sinks, woods and forests absorb atmospheric carbon and lock it up for centuries."- The Woodland Trust

The 'From small acorns' project will provide groups an opportunity to take practical steps to make a positive difference and make an impact on helping protect the environment and tackle the challenges of a changing climate.

This project will have a time frame of just over a year, so it will involve time, patience and commitment from you, your team and the young people.

It will involve:

- Learning about the different 'native' trees of Ireland and the UK, being able to identify them and recognise their seed.
- It will take young people out into a mix of ancient and new woodland areas local to them, showcasing different woodland habitats and demonstrate the eco-systems and bio-diversity found within.
- Developing knowledge and practical skills in horticulture such as seed collection, seed processing, propagation and growing and tree planting.

Across the duration of the programme young people will develop a range of skills that can link into the other areas of learning being involved in the group brings. They will develop team work and communication skills, experience a link to nature and the environment around them, progress across areas linked to Adventure Skills and/or can be used as part of a 'Special Interest' badge.

Most importantly, it will empower young people to become actively involved in a conversation around climate and the environment around them. It will enable young people to do something positive that can add to the solution for what to do about the climate. Finally, it will enhance woodland and forest areas around us through the planting of seedlings and tree whips, helping to protect and sustain theses precious areas.







From small acorns... The Programme

Beginning

The 'From small acorns' programme will require groups to engage and work across its delivery for a period of approximately 14 months. The good news is that the schedule for delivery will be broken up, you may have a run of 2-3 weeks where you need to give a lot of attention to the programme, then, at other times, all you will need to do is attend to growing your tree saplings etc.

To begin the process, as facilitator, think about what will be involved in delivering the programme:

What is your knowledge about trees and growing them?

What forests and woodlands are local to you?

How will this programme fit into your planned programme for the year?

What space do you have available to give over for growing or raised beds?

What current resources (tools etc) do you have? What will you need?

How can this activity link in with other Scouting activities?

The Schedule -

Activity 1: Introduction & Planning	Sessions should explore and discuss with the group the 'concept' and ideas behind 'From small acorns' and should be used to plan and agree with the group how the programme will be run.
Activity 2: Introducing Trees	'The Tree of Life' - This session should be used to establish knowledge and introduce learning about the importance of trees and the role they play in protecting against climate change.
Activity 3: Tree Idents.	Using a range of activities within the group or out in the natural world, introduce 'tree identification' and learning.
Activity 4: Harvesting	Using practical based activities, deliver sessions that involve a visit a local forest or woodland areas and find the seeds of native trees for harvesting - Aim to complete no later than November
Activity 5: Seed extraction and storage	Following a range of guidance, get seed 'mushing and smashing' and prepare your seeds for storage and/ or cultivation across the winter months.
Activity 6: Beds and propagation	Run across the late winter months, design and build areas to plant out and germinate your harvested seeds. This may include planting into seed trays or preparing larger growing areas to plant the seedlings.
Cultivation	The next few months will involve you growing or cultivating the skills necessary in looking after your seed crops and can be used to plan where the group will plant their tree seedlings once mature.
Final activity: Planting	With your seedlings in full flourish, the planting season is back upon us. November onwards, is an ideal time to plant. Alternatively you may need to grow your seeds into whips and plant the following season.

The schedule can be broken down and delivered across a number of sessions depending on how you and the group plan to complete the programme.







From small acorns... Delivering the programme

Plan

The planning stages for the programme are the most vital. You will need to think about how and when across the programme year you can fit the 'From small acorns' activities into what you have planned and determine if it can be linked to the other learning and fun you hope to be delivering across the calendar year.

Next, take time to familiarise yourself with this resource and ensure that you are happy and able to complete the activities and follow the guidance as described. What has been provided by this resource can be used to deliver a complete programme in itself; or alternatively, you may wish to use it to inform and guide a programme with additional activities and learning involved.

Discuss the 'From small acorns' Bring the programme to the group, engage and listen to their thoughts and use these to shape the 'from small acorns' programme delivery.

Finally, ensure that you are familiar with all policy and guidance from Scouting Ireland and that you have Risk Assessments created that detail the activities and excursions that are planned.

Do

Ensure that you prepare for each of the activities in advance, checking that you have access to suitable tools and resources as required and that the group has plenty of time to bring in materials etc that may be used for delivery of the activities.

Organise your team and your time, create a schedule for the activity and check that you will have the appropriate number of adults needed for completing the session. When taking groups out, ensure that **consent has been collected**, that you have **permission** to be on the woodland sites to collect seeds, and that groups wear **suitable clothing**.

Make sure that the activities follow the schedule as laid out above, dependent on the type of trees you choose to harvest, you will be required to store, prepare and sow seeds at differing times of the year.

Be creative in delivering the programme, have fun and make the experience exciting. Capture experiences through photographs and videos and make a note of any feedback around what the activities have been like and learning the group are taking away.

Review

As the 'from small acorns' programme runs across such a lengthy time period, it will be beneficial to consistently review the programme, activities and experiences as it is delivered.

Take time at the end of sessions/activities to pause and reflect with the group on what it is they have learned and are taking away with them. Ask what things they group enjoyed and what things they would change. Ask the group to give ideas for future activities and learning; incorporating these across the rest of the planned programme, if possible.

Don't forget to hold a celebration event, showcasing the experiences and work achieved by the group.





From small acorns... Introduction Activity

The Tree of Life

The Tree of Life activity is a great way of encouraging your group to research and 'find facts' about the importance trees play in sustaining life and in helping combat climate issues.

The activity can be completed in two ways:

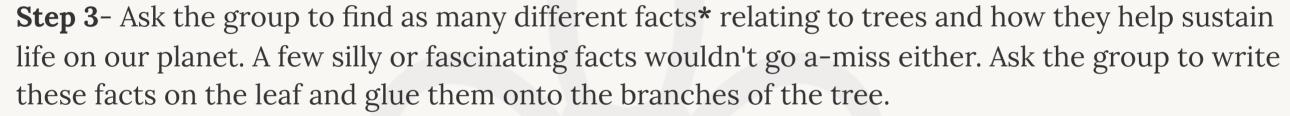
Ideal for Beavers/ Cubs

Resources: Blank pages, pencils, markers. paints. scissors, glue, access to internet and devices or else 'good old fashioned' fact books if available.

Method:

Step 1- Give everyone a blank piece of paper and ask them to draw the outline of a tree similar to the one pictured and colour it anyway they wish.

Step2- Providing paper, ask the group to draw and cut out a leaf template, making sure they are big enough so that a 'fact' can be written in its centre.



Step 4- Discuss with the group what facts have been found, see who has been able to find the most, perhaps providing a treat or a prize as an incentive. Vote on the most amazing fact found was and overall celebrate and share in just how amazing and necessary trees are to the Earth.

Ideal for Scouts/ Ventures

Resources: Poles, branches, rope, sisal, blank/ white card, scissors, markers, pencils, access to internet and devices.

Method:

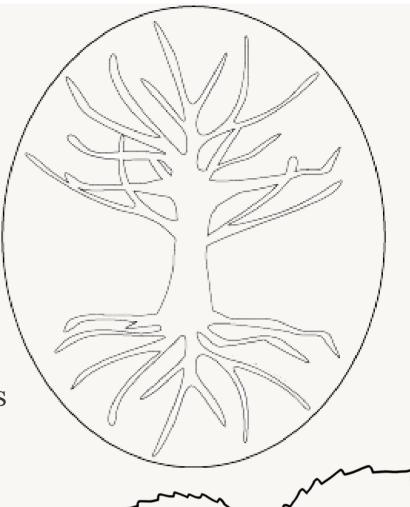
Step 1- Ask the group to build 'A Tree of Life' model similar to the picture above. This may serve as a great opportunity to practice knots and lashings, but the important thing to ensure is that the model can stand upright unaided and that there are plenty of branches available.

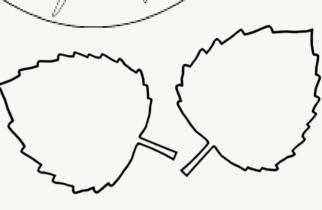
Step 2- On the card, draw a leaf shape (proportional to the model) and write down a range of interesting, bizarre and fascinating facts*. Ensure you that there are enough facts to provide a good canopy. You may wish to categorize the facts and hang then from different branches.

Step 3- Share and discuss the facts that are on display, you could offer a prize for the most bizarre or funny fact. The important thing is that the group begin to realise and appreciate the part trees play in the world around us.

Step 4- Display the model for a week or two, encouraging the other young people in the group to stop and discover something about trees, helping create excitement around the rest of the programme.

*As the facilitator, be prepared to have some facts available re how trees store carbon and help the environment etc.







From small acorns... Tree Idents.

Native or not native

Trees come in all shapes and sizes, and have a wide range of origin.

Some of the most familiar trees we find around Ireland and the UK however, are actually non-native species, having been brought back and planted by intrepid explorers and Victorian gardeners alike.

"Native or not native' is an activity that aims to help groups to become familiar with identifying the range of trees we find on our shores.

Resources:

'Native or not native' tree cards (cut out) and/ or large room, flipchart, marker.

Method:

Step 1- Either print one set of cards large enough
(A3) so they can be displayed to the group and cut
them out; or print a number of sets out (enough for a few teams)

Step2- Either start with the group in the middle of the room and show each card and ask the group to move to one side of the room if they think it is 'native' or to the other if 'non-native'. Alternatively, provide small groups a pack of cards each, and ask them to sort them into the two categories.

Step 3- With the different trees categorised, provide the correct answer as to if the tree is native or not, and discuss any surprises that these answers throw out.

Next steps- This activity has been designed to introduce groups to the concept of 'Tree Idents'. Whether groups are beginning learning for recognising trees or if they already are familiar with how best to recognise the trees we find around us, providing opportunities for this type of learning is never a bad thing. Tree Idents. also link into Backwoods and Pioneering Adventure Skills as well as provide opportunities for fun and learning when out and about in nature.

Using Tree Idents.

As the 'From small acorns... project aims to engage young people in learning about and recognising the role trees play in protecting our environment and to identify and collect seeds and grow native trees, it is important that groups become familiar and adept at being able to identify these trees.

The next two pages contain information about a number of native trees, providing indicators, such as **tree shape**, **leaf** and **seed** types. Print out these pages and describe and discuss how these indicators help to ID trees.. As these seeds will be harvested in Autumn, leaves will still be available to use, but it may also prove beneficial to use the Woodland Trust website:

https://www.woodlandtrust.org.uk/search/?q=tree+ident&Submit+search=&p=1 to access a range of other support and resources.

Scout





From small acorns... Tree Idents. - Native or not native cards







From small acorns... Native Tree Ident. (1)



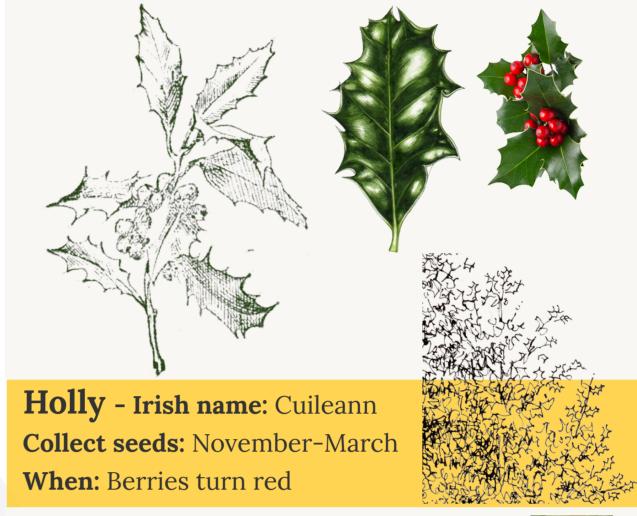






From small acorns... Native Tree Ident. (2)









Pendunculate Oak- Irish name: Dair ghallda Collect seeds: October-November When: Acorn begins to fall

Sessile Oak- Irish name: Dair ghaelach Collect seeds: October-November When: Acorn begins to fall









From small acorns... Tree Ident. Wheel

The **Tree Ident. Wheel** can be used in a number of ways. You may wish to use it as part of an activity calling out the name of a tree and asking the group to line up its leaf and seed.

Alternatively, you may wish to use it on a nature walk, asking the group to turn all the wheels to show the leaf, seed and name, then challenging them to find one.



Follow the instructions on the next page for construction of the wheel.

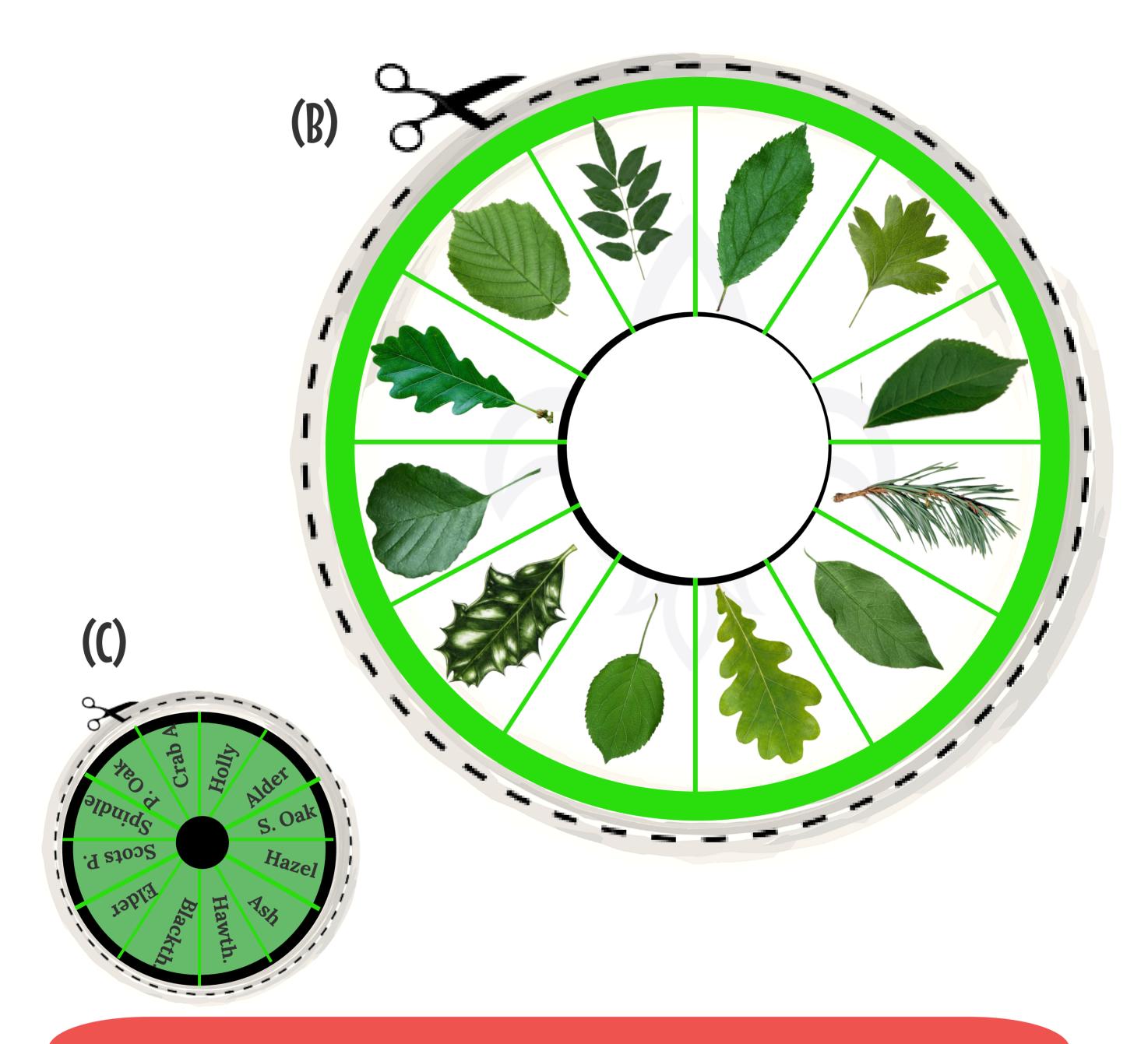
(A)







From small acorns... Tree Ident. Wheel



- Print out the two Tree Ident. Wheel pages and cut out wheels A- Seed, B- Leaf and C- Name.
- Next using heavier card, such as a cereal box, cut out corresponding circles and then stick down each of the wheels with glue.
- Finally, line up all the wheels and insert a paper fastener to enable the wheels to turn.

Use as a standalone activity asking the group to match one correct name/leaf and fruit/seed or out and about on a woodland walk.



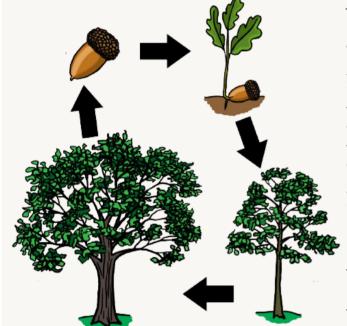


From small acorns... Additional Woodland learning

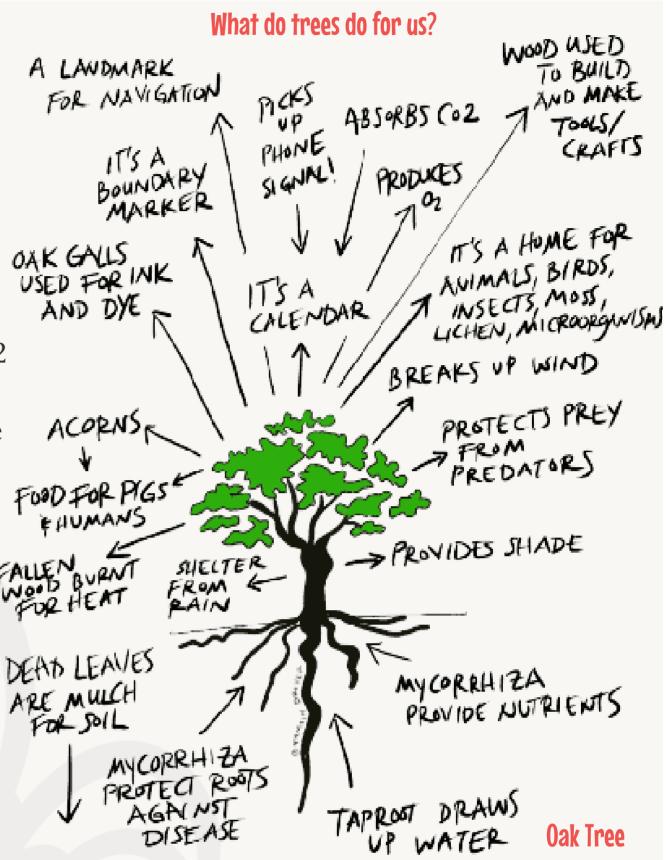
Bio-diversity and Eco-systems

To better establish the role that trees play in helping to sustain our life on Earth, making links to the eco-systems and bio-diversity found around the woodland floor will help to illustrate this fact.

The diagram can be used to explore and establish how trees support a range of life on our planetfrom being a food source for insects, to storing C02 to being used for fire wood or as markers for us to follow- celebrate all the things that trees do for the land!



As you will be harvesting across the Autumn months you may also like to make a link with how fallen leaves rot and nourish the earth and support the growing of the seeds that drop from the tree.



Mini-beast/Bug Hunt

Whilst on your trip to harvest seeds, it may be an idea to take this opportunity to explore the biodiversity of the woodland around you. The easiest and perhaps most practical and fun way for doing this is to hold a mini-beast/bug hunt.

What you will need: An outdoor space, a book on mini-beasts, a record chart, clipboards, pencils, jam jar or container or bug pots (optional), paint brushes (optional), nets (optional), mirrors (optional), gloves and/or hand gel for hygiene purposes.

Method:

Step 1-Look across your woodland site for piles of fallen leaves and other natural litter and log piles or long grass areas.

Step 2- In groups, look through the piles, under leaves, behind rocks or turn over logs to reveal a host of insect life that call these places home. Mirrors can be used to look behind or under things that can't be moved.

Step 3- You can carefully collect the bugs in your containers (paint brushes are ideal for this) to show to the rest of the group and make it easier to identify what has been found using a minibeasts book.

Step 4- Make notes or drawings of what you have found and carefully return the bugs where you took them from. Have a discussion about what was found and re-enforce the importance trees hold on creating eco-systems and sustaining a range of bio-diversity.

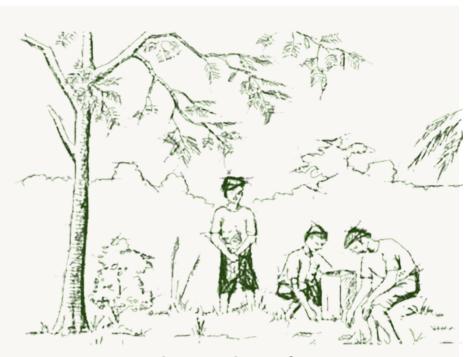




From small acorns... Harvesting

Planning

- Identify the best and most easily accessible woodland or forest area to visit, getting permission to collect the seeds.
- Plan your activity, taking the weather into consideration and ensure that your group is dressed appropriately. Ideally boots will be worn and ask young people to wear a heavy pair of gloves.
- Ensure all policy and guidance is followed, consent forms completed and a Risk Assessment recorded.



Ground Collection



Canopy Collection

Doing - Harvesting

- Identify what the species of native tree you will be collecting seed from will be. It may be an idea to use the 'Tree ID Wheel' to remind the group what the seed for your tree looks like.
- Harvesting takes many forms, but for this activity we will be using one of two methods only - Ground and Canopy collection.
- You will need seed receptacles- buckets, containers or bags to store the seed. Brush handles or long thin branches, goggles or other face protection, heavy/ thick gloves.
- Canopy collection Using a long pole or branch, stand at the edge of the tree canopy (make sure no one is underneath the tree) and hook a branch, drawing it downwards so you can grab it with your hand and collect the seed. Alternatively, shake the branch so that the seeds fall to the ground. You are now able to scavenge the area underneath the tree and collect the seeds on the ground by hand - Ground collection.

Reviewing- completing the task

- You will need- bags, labels and pen
- When completing the task make sure that all elements of Leave No Trace are followed. We are not planning to damage the trees, so caution must be exercised when using the **Canopy collection** method.
- Don't forget to take plenty of pictures and videos so that you can remember and share the experience.
- When collecting the seed, make sure the group keep the different seed types together in one place.
- Bring the group together and 'inspect' the harvest. Separate the seeds, bagging and labelling them stating the date, the seed type and the place it was collected from.
- Discuss with the group how the activity went, how did they feel about completing the task? Did they work well individually and as part of teams? Are they excited about the next steps? What is the learning and experiences that they are taking away with them.
- Store the seeds in a cool dry place, ready for the next phase of activity **Seed processing**





From small acorns... Seed Processing

Seed processing is necessary for extracting seeds from fruits for storage, it helps to prevent seeds from going mouldy during pre-treatment as well as stops fungal contamination after germination. It also helps protect and improve the seed moisture whilst it is in storage.

Seed Types

There are five different groups of seeds produced by our native trees and shrubs and each group requires processing in a different way. As the 'From small acorns' project is only focusing on native trees that require seed collection during the autumn months, we will only look at four seed types.

Berries & fleshy fruits- These require the most processing to extract clean seed. Fruits can be soaked to soften them, without letting them ferment, before being separated from the pulp by:

- •Mashing*: soaking and pulping the berries and then processing them through panning.
- •Popping by hand: useful for small quantities of finger- sized fruits and seeds, e.g. hawthorn
- •Direct pressing through a sieve: useful for small seeds that are easily damaged, e.g. rowan







Hazel Nuts

Nuts- Nuts can be removed from their husks, and a viability test will be carried out to see if the seed inside will likely grow a tree.

To perform a viability test, take the nut (now removed from it's husk) and place it in water. Nuts with a lot of air inside them or only a small seed will float- meaning they aren't great for planting. Nuts that sink are full and a much better option for planting.

Wings- Separate individual fruits from bunches and remove stalks and twigs. The outer fruit layer (the wing itself) is not normally removed from winged seeds.

These seeds should then be pre-treated immediately.



Alder Bracts

Cones/ Bracts- Alder is collected just as the cones or bracts begin to turn from green to brown. Ensure that you do not leave them in the collecting bags too long as they will begin to heat up and the seeds will start to die. Place the cones or bracts in an open box and keep them dry and in a warm place. Stir or shake them in the box to dislodge the seeds. When collected, store seeds in bags in a cool, dry place.

*Mashing



1. Remove berries from bunches by hand

2. Mash gently with a flat-bottomed tool



3. Add some water and sieve one or two times to remove scum

Scout



4. Direct a jet of water onto the seed mixture. The empty seeds will float and can be poured off with the remains of the berries.

Repeat this a few times and you will be left with clean seed in the bottom of the bucket!





From small acorns... Pre-treatment of your seeds

Just like us, different seeds will thrive in different ways, and require varied treatments to give them the best chance of germination and growing into seedlings.

Your pre-seed treatment will need to be completed at differing times, dependent on the seed(s) that you have collected. Follow the guidance below, dependant on which seed(s) you have.

Asleep or not asleep

A dormant seed is one that is known to be alive, but does not germinate immediately after it is collected. Most of our native tree seeds are dormant and require some kind of treatment before they will grow. This is simple enough to achieve by providing a period of cold and/or warmth.

Our climate will take care of the warm and cold temperatures for you. All that we need to do is to 'store' our seeds outside for the appropriate length of time.

The seeds that are aimed to be collected by 'From small acorns' programme require different types of 'pre-treatment:

Non Dormant - Sow immediately:

Sessile Oak
Pedunculate Oak

Store dry and pre-treat in spring:

Alder Scots Pine Pre-treat and sow first spring after collection:

Blackthorn

Crab Apple

Elder

Hazel

Pre-treat and sow second spring after collection:

Ash
Hawthorn
Holly
Spindle

Alder and **Scots Pine** seeds are best stored dry once they have been extracted and pre-treated in the spring.

At the beginning of **March**, soak Alder and Scots pine seeds for 24 hours in cold water and then drain. Mix with a little moist sand, place in a loosely tied plastic bag in the fridge for four to six weeks and then sow.

Blackthorn, Crab Apple, Elder and **Hazel** seeds can be **pre-treated immediately** following extraction. **See below for pre treatment method.** They will be ready to sow in the first **spring** following collection. Blackthorn will benefit from a 4 week period of warmth before being set outside.

Ash, Hawthorn, Holly and **Spindle** seeds are treated the same way as blackthorn above, but wait until the **second spring** before sowing. The period of warmth that they require is satisfied by the summer following collection.

Pre-Treatment Method

- 1. Take equal volumes of an organic material, such as peatfree compost or leaf mould, and a coarse medium, such as grit, coarse sand or vermiculite. Mix this together thoroughly.
- 2. In a bucket, combine your seeds with an equal volume of this mixture. Add enough water so that, when you take a handful and squeeze it tightly, only one or two drops of water escape. This is the ideal moisture content for the seed. Mix the seed and compost/sand mixture together.
- 3. Place all this in a suitable container, such as a plant pot. The container must have good drainage and be large enough to hold everything. Cover the seed mixture with 2-4cm of horticultural sand.
- 4. The container should be kept outside in a shady place. It should be exposed to natural conditions but must not be allowed to dry out or become waterlogged.
- In early spring (the 1st or the 2nd spring, depending on the species), check seeds for signs of germination. Ideally sow just as the root begins to appear.





From small acorns... Planting on

Harvesting, preparing and storing the tree seeds is only one half of the story, germinating and growing our trees is the next part.

Pots or Seed Beds

Pots: If you have only a small number of seeds, growing in pots is probably the best option. Fill pots with soil based composts and add bone-meal and or a slow release fertiliser/ feed.

Seed Beds: If you have a large number of seeds, then creating a 'seed bed' will be the best option. Either prepare a piece of land (if available), by digging over the soil, adding manure or compost, make the area firm and rake to create a fine tilth.

Getting Creative

As the late Winter months, turn to Spring, it may be a good idea to get your group to design and create a range of DIY planters and beds to use to plant and grow your seeds in.

Pots: Plastic bottles will allow you to design and create simple or elaborate 'plant pots' of all shapes and sizes. You will only be limited by your imagination - and the number of bottles you can acquire.

There are any number of designs and possibilities for you and your group to research and find guidance on how to create them, however there are two important things to remember:

1. Ensure your pots have drainage holes pierced in their bottom.

2. Fill their base with a course material to assist drainage and keep them weighted.



Log bed

Raised seed beds: If you have the space, using logs or pallets with their base covered with binliners, is a quick, cheap and effective way of creating a growing area for sowing or planting your seedlings into. As with pots, always fill the base with a course or heavy based aggregate to assist with drainage.



Pallet Beds

Seed sowing

- The number of seeds you sow depends on the species and the number of seeds you expect to germinate. As a rule of thumb, the larger the seed, the higher the germination rate, so, in a pot where you want only one Oak tree, sow two acorns or about 20 Alder seed (which are smaller).
- Seeds should be scattered on the surface of the soil or compost, firmed and covered. Horticultural grit is the best material to use to cover your seeds, but soil or compost will do. Make sure that seeds are only covered to their own depth too deep and they may not emerge.
- As your seeds mature and begin to sprout, don't forget to feed and weed around them.

Planting your trees

Once our trees are about 30 or 40cm tall, they are ready to be planted into their final home. Plant to the same depth as they were previously growing and keep well watered, fed and weed-free.





From small acorns... Finishing up

Hopefully it will have been some time from when you began delivery of the 'From small acorns' programme, and that it has given you and the group plenty of opportunities to develop knowledge, learning and a range of practical skills involved in growing and planting trees.

Because of the time involved in the programme, it can be easy to forget everything that has been done- identifying trees and their seeds, harvesting them, preparing them, planting and then caring for them- and everything else in-between, until they are ready to be put into a new home and get down to the business of helping us and the planet around us.

Planning a celebration event that encompasses both the planting of the mature seedlings and that details the journey and tasks undertaken by everyone is a good way of ensuring that the programme comes to its natural conclusion.

Why not put together a notice board or project book, using your photos and comments taken over the length of the programme, detailing from start to finish what has been involved, reflecting on the effort made and skills learned, enabling the programme to be shared with family, friends and other group members.

Don't forget to incorporate a 'review' element into the event, further helping the group to see all that has been achieved and putting forward recommendations for delivering 'From small acorns' for future young people.

Additional support and information

The SFNI Programme Lead can provide you with guidance and support in how to run and incorporate this programme into your broader Scouting programme and can advise on financial support for acquiring some of the tools and resources necessary and help secure the appropriate badges. Contact via programmelead@sfni.org

Useful Links

The Woodland Trust - https://www.woodlandtrust.org.uk/

TCV Tree Nursery - https://www.tcv.org.uk/northernireland/tree-nursery/

The Learning Centre- https://learning-center.homesciencetools.com/article/learn-abouttrees-and-forests/

National Geographic- https://blog.education.nationalgeographic.org/2021/09/16/what-can-welearn-from-the-trees/

BBC Gardeners World- https://www.gardenersworld.com/how-to/diy/how-to-build-a-raisedbed/











The 'From small acorns' programme has been developed and designed by the SFNI Programme Lead 08/22, using a range of different sources to inform activities and guidance in regard to the harvest, preparation and planting of trees.

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