



Tree Planting

Key Stage/Age group All ages

Time needed for activity Dependant on how many trees are to be planted

Location Outdoors, where trees are to be planted

Context

This activity plan highlights the importance of sustainably managing our natural resources, focusing on planting trees to benefit wildlife.

Natural Resources Wales’ purpose is to pursue sustainable management of natural resources in all of its work. This means looking after air, land, water, wildlife, plants and soil to improve Wales’ well-being, and provide a better future for everyone.

Curriculum links

ESDGC - Natural environment

FP

- Develop a sense of awe and wonder at the beauty of landscapes, habitats and living things
- Care for the environment and recognise its importance
- Understand the variety of living things

KS2

- Develop respect for landscapes, habitats and living things
- Develop a fascination with and respect for the natural world
- Understand the needs of living things

KS3

- Show informed concern for the quality of the natural environment near and far
- Act to protect biodiversity and local and global environments
- Understand how human activity changes local and global environments

KS4

- Show concern for all living things, their needs and inter-relationships
- Support actions that promote biodiversity
- Value wild spaces

Post 16

- Advocate support for conservation of natural habitats
- Appreciate the natural world as a source of inspiration and creativity
- Understand the principles of ecological sustainable development

Objectives

By the end of this activity learners will be able to:

- Explain why it is important to plant trees
- Plant trees successfully
- Protect and maintain planted trees



Equipment and resources

- Trees to plant (saplings)
- Spades
- Gardening gloves (optional)
- Tree guards (optional although recommended if saplings are over 60 cm in height)
- Stakes or canes to support the saplings (optional)
- Canes and high visibility tape to mark out the area to be planted or to mark out where the trees have been planted to protect them from e.g. lawnmowers (optional)

The planting season

- In Wales, the planting season is generally considered to run from October to April. During that period there are likely to be some times of prolonged cold weather which will interfere with planting work. You should not plant when the ground is frozen or during long periods of dry winter weather as there is a high risk that young saplings will perish from the effects of frost or lack of water.
- Re-planting creates a lot of stress for a young tree and, if this were done in summer when the tree is in full leaf, it would probably die. By moving and planting young trees while they are dormant over the winter the risk of damage to the tree is minimised and the tree has the best chance of getting established in its new location.
- Cell grown trees (not bare-rooted) can be planted for most of the year dependant on the weather.

What to do

Where to get trees

- Free trees for schools and community groups are usually available from the Woodland Trust.
- Buy from your local nursery and where possible source local provenance saplings.

Preparing to plant

- Arrange for the trees to be delivered as close to your planting day as you can, and if possible have them dropped off close to the planting site.
- Ensure that there is a cool, sheltered and secure place to store the trees before they are planted.
- Young trees are very fragile and must be handled with great care. Bare-rooted trees are normally supplied in bundles, contained in protective plastic bags. They should be kept in these bags for as long as possible.
- Tree roots should not be exposed to the wind or draughts for longer than a few moments. Keep tree bags closed until ready to plant.
- Bags should not be heaped on top of one another, thrown or dropped. Keep them out of direct sunlight and protect them from frost.
- If it is not possible to keep the trees in their bags they will require 'heeling in' – storing them in dug trenches ensuring that their roots are covered, until ready to plant.

Where to plant?

- As long as the landowner's permission has been granted, trees can be planted anywhere where they have sufficient space to grow.
- Don't plant too close to buildings, overhead or underground cables, drains, electrical services or playing fields – roots can cause structural damage and there is no point in planting a tree if it will have to be cut down at a later date due to it being poorly positioned.

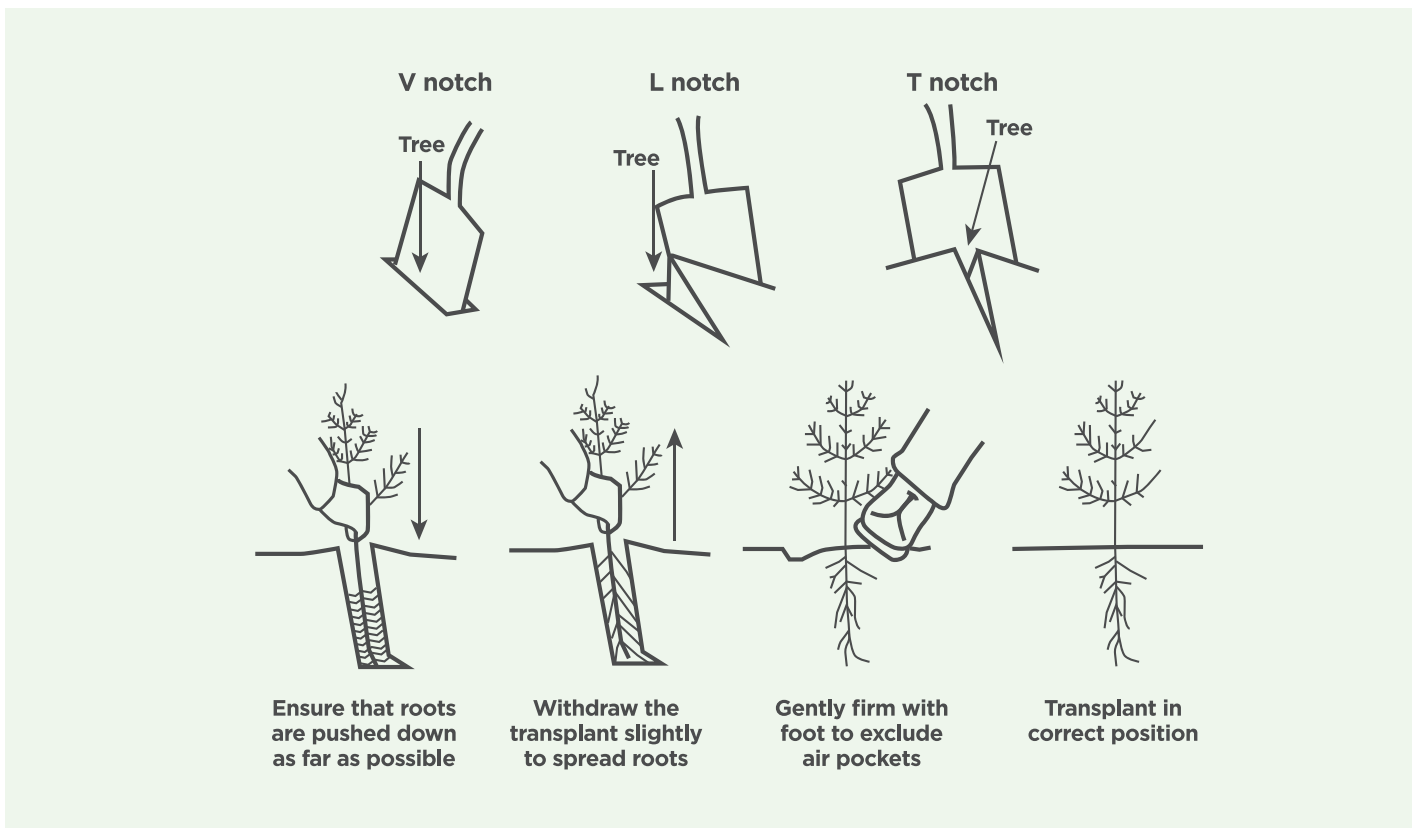


- It can be helpful to mark out different parts of the site with canes before planting to ensure the right species are planted in the right place (a piece of high-visibility tape tied to the top of each cane will make them much easier to see).

Planting

- There are a number of planting techniques. Pit and notch planting techniques are explained below.
- Whichever planting method is used be careful not to plant trees too shallow or too deep. The final position of the tree should result in the root collar being level with the soil. The root collar can usually be identified on young trees by lightly rubbing the stem near the root, looking for the point where there is a change of colour. If a tree is planted too deep the stem may rot; too shallow and the roots above ground will die.

Notch-planting



- Trees that are generally less than 60cm high can be notch planted.
- The “notch” planting techniques, as shown in the diagram above, are usually best for ensuring good root protection as well as efficiency during planting.
- The type of notch will depend on the soil conditions and the size of tree. The simple ‘V’ notch planting technique is often suitable for small bare-root saplings. L’ and ‘T’ notches may work better with container grown stock which have larger roots, and bigger bare root trees.
- Don’t use the spade to push the roots into the notch. If you’re struggling to fit the tree into the notch, try a different type of notch and a deeper cut.



Pit-planting

- Pit-planting is generally used when planting larger trees which are at least a few years old. This planting technique is more time consuming and therefore isn't the method used for planting large quantities of trees.
- Use a spade to take the turf out of the ground, turn it over and split it almost in half.
- Dig a hole slightly wider and deeper than the roots of your tree. Loosen the soil around the edges.
- Put the tree in the hole and check the depth. Look for the "collar" – the mark on the tree from where it originally started to grow above ground. This should be level with the top of the soil.
- Hold the tree upright and gently push back the soil, pressing it down onto the roots. Don't compact the soil as this will stop water and air circulation, but make sure your tree is steady.
- Put the turf back over the hole with the split either side of the young tree, grass side down.

Protecting the trees once planted

- Tree guards and tubes can give valuable protection from rabbits, voles and deer, and the money spent may save the greater cost of replacing dead trees later on. Some types of tubes and guards are designed to give trees a sheltered, greenhouse-like environment and thus promote growth.
- All guards, when properly secured with a stake or cane, give the young tree some shelter from strong winds and extreme winter conditions, they also indicate to grounds maintenance staff where trees are planted!
- Always ensure that the size and type of guard you use is suitable for the planting stock you have (if in doubt, ask the supplier).
- Guards are normally fitted immediately after planting. You may wish to fit the guard at once, or plant a row of trees and then go back and fit the guards.
- Take care to fit the guards properly, or you'll be wasting your time: for example, vole guards are useless if not pushed properly into the ground, as voles can get underneath them and push them out of the way.
- As a cheaper option plastic drinks bottles, such as fizzy drinks or milk cartons, can be used as guards. Cut off the bottom of the bottle and place upside down over the tree pushing the spout end into the ground. Once the tree has established, remove the guard taking care not to rub against the tree and cause a wound. This could act as an entrance hole for disease and infection.

Maintaining the trees after planting

- Ensure they have an adequate water supply during their first year. Newly planted trees generally need a gallon of water per day – you may need to water them during sunny spells, however, do not overwater. Once the tree becomes established, watering can be reduced.
- A young tree's growth rate and chances of survival will be severely affected by surrounding vegetation. Grass and weeds will compete for moisture and nutrients from the soil so some weeding will be necessary. Ensure an area of about half a metre is kept clear around the diameter of the tree's trunk, ideally for the first few years. Mulch, old carpet and even newspaper can be spread around young trees to deter weed growth.
- Trees may need 'firming up' for the first year following planting. Any cracks in the soil around your young trees caused by wind, snow and heavy rain will need closing by treading carefully on them.
- Ensure caretakers/landowners are aware of the trees' location. Many trees succumb each year to death by lawnmower. Ask your learners to make flags or similar to make the trees' location clear.
- Once trees have established remove any guards, canes, stakes or ties. If these are left on the tree may rub against them causing a wound in the bark which acts as an entrance hole for disease and infection.



Key questions

- Why are trees important?
- What do trees need to grow?
- What species are our trees?
- How can we plant trees well?
- How can we look after our trees?

Adapting for different needs/abilities

Less able

- Choose appropriate sized spades for the users, young children will need junior spades which are lighter and easier for them to use.
- Younger children can work in pairs so that one child can hold the tree in place while the other child backfills the soil carefully to fill the hole or firms with their foot, depending on the chosen planting method.

More able

- Older children will be more able to cope with steep or uneven terrain where the ground may be more difficult to dig.

Follow up activity/extension

Try our other tree and woodland learning resources:

- Activity plan - How a tree works
- Activities and Games - Seed dispersal
- Information note - How to grow an acorn from seed

Looking for more learning resources, information and data?

Please contact: education@naturalresourceswales.gov.uk or go to <https://naturalresourceswales/learning>

Alternative format; large print or another language, please contact:
enquiries@naturalresourceswales.gov.uk
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