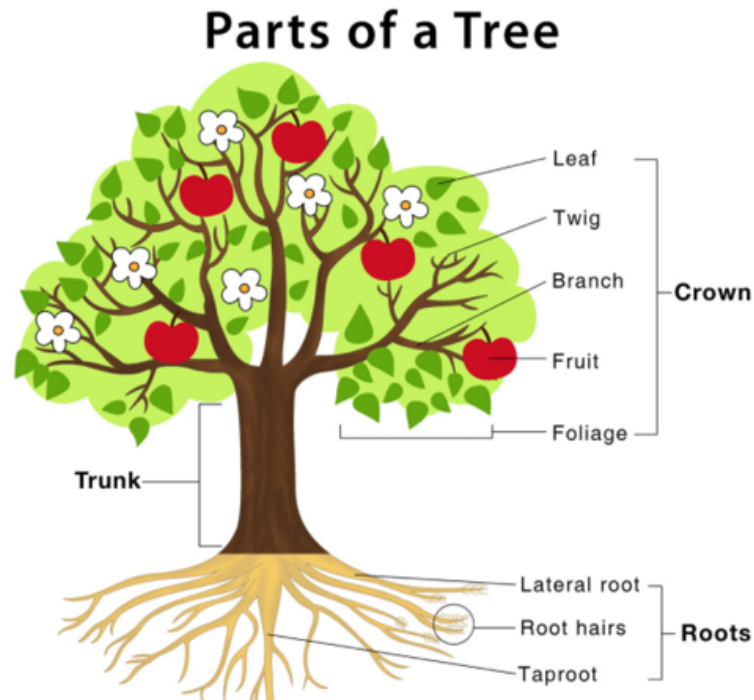


# Tree Planting Presentation

Presentation to be given to 2<sup>nd</sup> Class students aged between 8-9 years old

# What is a Tree



- “A tree is any plant with a self-supporting perennial woody stem” – a tree is able to stand up by itself because of the way it is built and it keeps growing and getting bigger every year. Trees have leaves, branches, a main trunk and roots. The leaves have the ability to take carbon dioxide from the air and mix it with water taken from the soil by the roots. With the help of the sun's energy and chlorophyll the leaves can create sugars from the carbon dioxide and water. These sugars feed the tree and allow it to grow. While the tree is doing all this it is also creating oxygen as a by-product that allows all living things to breathe. It is also storing all the carbon that it captures from the air

# Tree Sizes

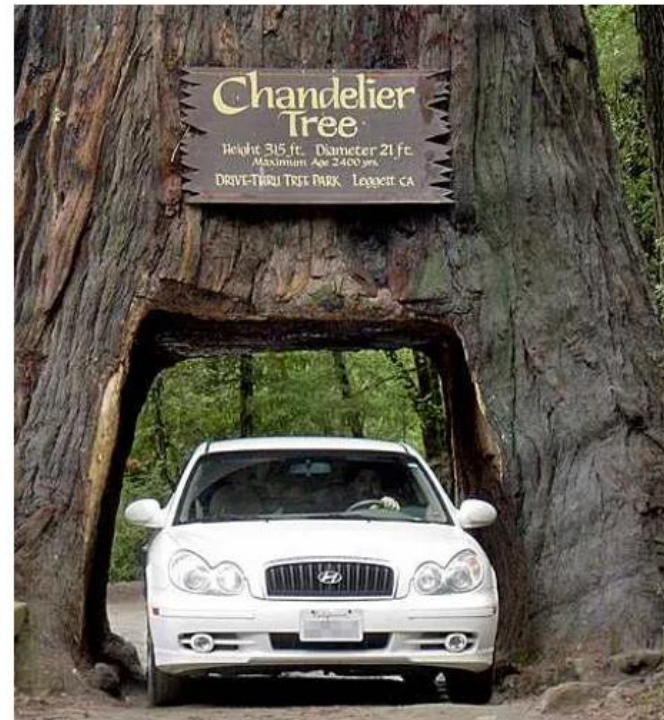
**Smallest tree in the world – Dwarf Willow – grows to max of 6cm**



**Tallest tree in the world – Giant Redwood – grows to max of 300ft +**

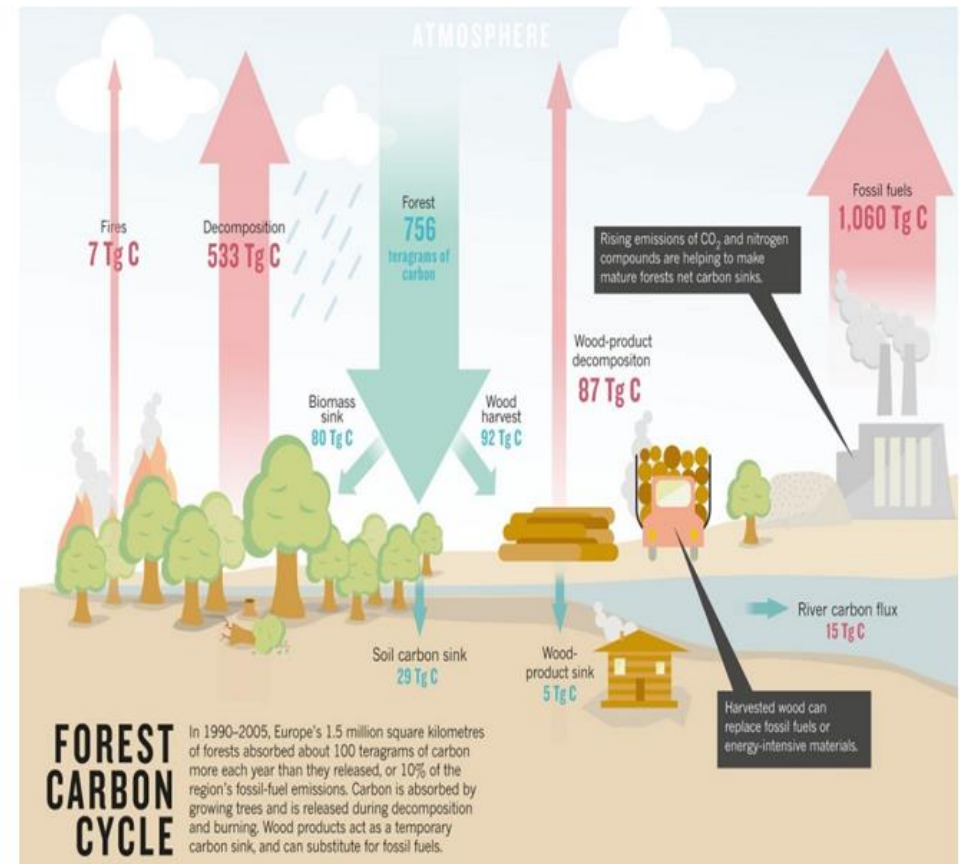


# Giant Redwoods



# Why should we plant trees?

- What are trees good for and why would we want to plant them? They create a diverse and visual landscape, they provide shade from the sun, protection from the wind, they provide barriers for noise, they take pollution from the air, they provide food and shelter for wildlife including birds and insects. They also store carbon within their woody trunk, excessive carbon in the atmosphere is leading to warmer temperatures and the changing of our climate. So, if we plant lots of trees, they can store up that carbon that's in the atmosphere and help to reduce climate change.



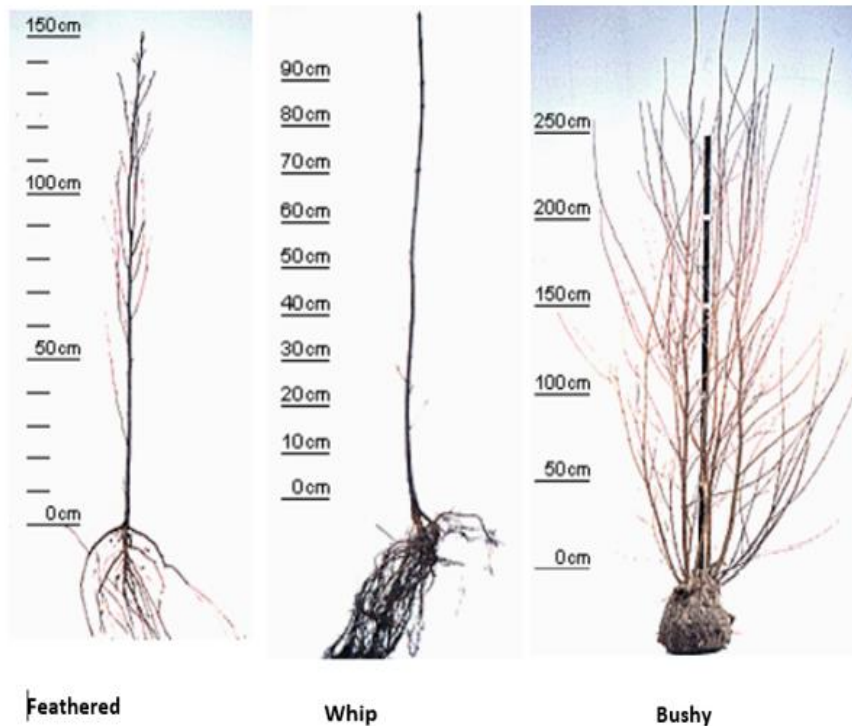
# What trees should we plant ?

- There is a lot of talk at the moment among people about planting only native trees, that is trees that are naturally found growing in Ireland. I have my opinions on this approach but we will keep that for a different talk. But, the positive side for planting native trees is that they will support many different birds, insects and animals that are used to using these types for trees for their homes and as a food source.
- So, the trees that we are going to plant are all native species. They include *Alnus glutinosa* (Alder), *Betula pubescens* (Downy Birch) – their called downy because of the little hairs that grow on the stalks where the leaves are attached, you can feel them with your fingers, *Crataegus monogyna* (Hawthorn) – these have sharp thorns so gloves will be needed, *Quercus robur* (Pendunculate Oak) they are called this because their leaves grow on a small stem off the branches or twigs and *Pinus sylvestris* (Scots Pine), a conifer tree that has needles for leaves, the needles are in bundles of 2's.
- We will be planting all these trees as bare root – which means that when we actually plant them in the ground they will not have any soil attached to their root system. It is very important that the roots are kept, moist and don't dry out, so we will dip them in a bucket of water before planting. I will make sure that they are kept in a safe place away from direct sunlight and keep them moist until it comes to the planting day

Images - Birch (main photo), Alder (top left), Oak (top right), Hawthorn (bottom left) & Scots Pine (bottom right)

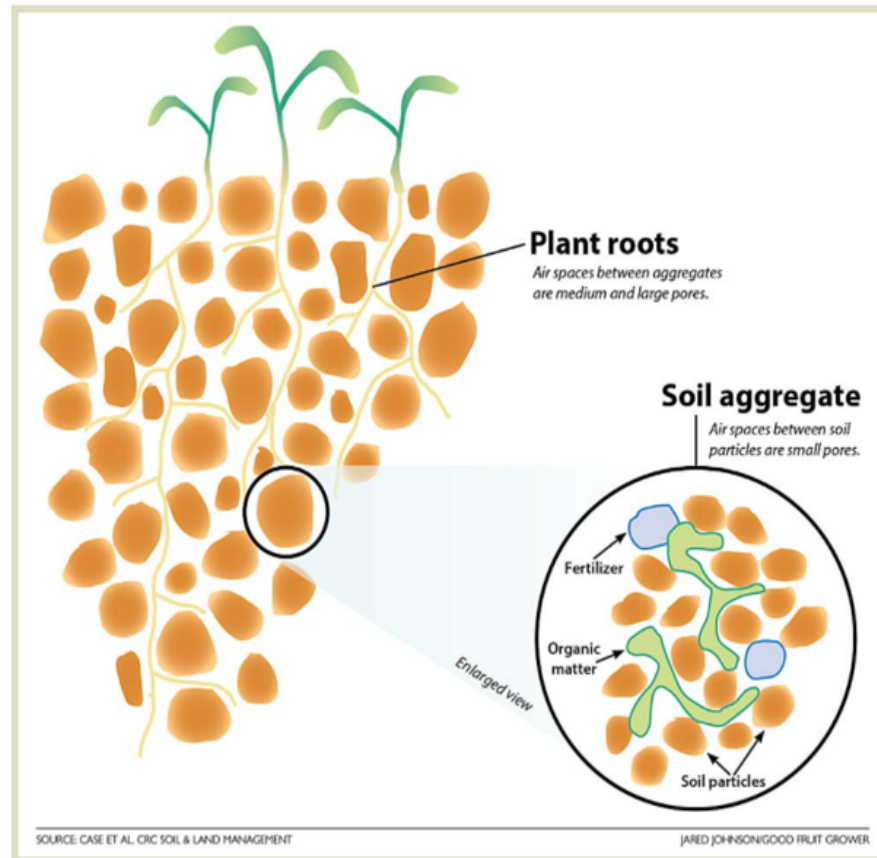


What size trees are we going to plant?



- There are lots of different sizes with different classifications for planting trees. Some common planting sizes we get from nurseries are:
- **Seedlings** - (only 1 year old grown from seed)
- **Cuttings** - (this is where stems are cut from a tree and planted to grow its own roots – poplar & willow)
- **Transplants** - (where the roots of seedlings or cuttings have been cut back to encourage more fibrous growth and then planted at a wider spacing – they are usually grown for 2-3 years, trees can be transplanted more than once)
- **Whips** - are defined as “transplants consisting of only a single stem, without significant side branching”. A lot of trees do not grow this way and cutting their side branches is not a recommended practice
- **Feathered** – trees with a central leading growing point and an even distribution of branches down to the ground depending on the species. **Birch, Oak and Alder are examples of feathered trees and species we will be planting**
- **Bushy** – trees with lots of main stems growing from ground level and from one root system. These have also been transplanted – moved from one spot to another – **Hawthorn is an example of a bushy tree and species we will be planting**
- **Standards** – these are bigger trees which have been grown for a number of years, there are many different levels of standard trees but all should have a clear trunk and well defined branched crown

# The soil and the trees



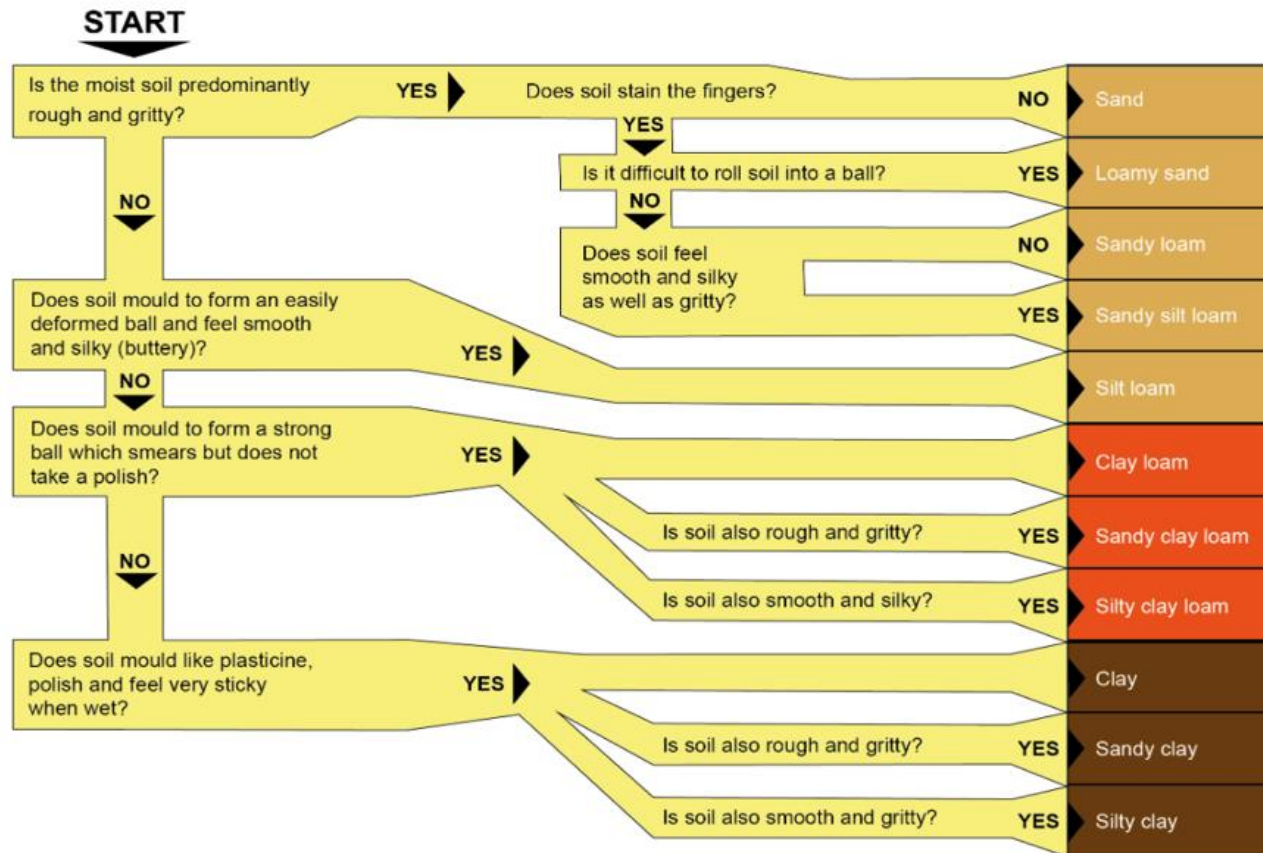
This illustration shows well-structured soil with a good range of aggregate and pore sizes.

(Source: Case et al./CRC Soil and Land Management; Graphic: Jared Johnson/Good Fruit Grower)

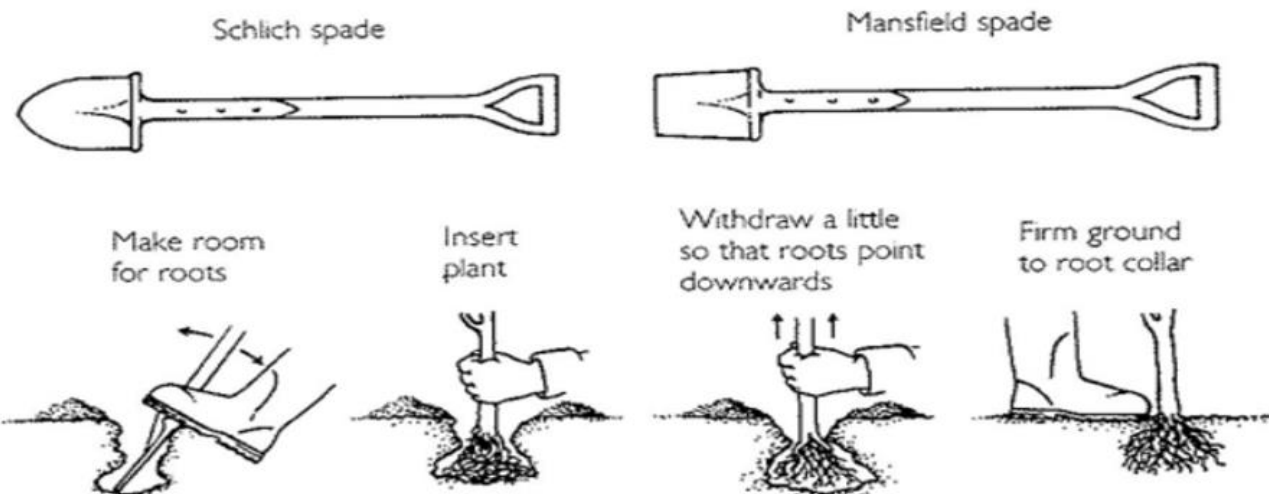
- It is good to know the type of soil we have in the field, and this is where we are going to get really messy. So, in order to find out what type of soil is in this field we will do a soil test. How we do this is shown on the next slide.
- There is also another very important test that we do on the soil. That is to find out what the pH of the soil is. The pH tells us what type of mineral nutrients are dominating in the soil. Different types of trees like different levels of pH and therefore different amounts a nutrients
- Now that we know what type of soil is in the field - Fine Sandy, Silt Loam and the pH (5.2)- we have we can plant trees that grow well in this type of soil. It is what we would call a well-structured soil that has both large pores (open spaces) to allow excess water drain down through soil profile and smaller pores capable of holding the water for the plants to use. They will also have an equal amount of pore space for air and water which create ideal conditions for plant growth.
- Poor planting can affect the survival, growth and wind stability of trees so careful planting is required to ensure that the roots are placed in the planting hole or slit in such a way that will allow the tree to develop a radial root system (one that spreads in all directions) which can support the stem.
- The trees we will be planting are all either feathered or bushy transplants and they require manual planting. This means that we have to do the planting and get our hands dirty with soil. We all think that digging a hole is the only way to plant a tree, and for bigger trees such as Standard sizes this is very true. But there are other methods such as slit planting. It is a very common method where the slit is made with the spade in the ground and then crossed to resemble a T (T notch planting) or a second cut is made at a right angle to resemble an L (angle notch planting) and using the spade lift the edges of the cuts and place roots of the transplant into the slit sideways and adjust to the correct depth so the roots are in the ideal position and the transplant is inserted into the ground and the slit closed with the heel of the foot and the plant firmed.
- We only plant bare-root trees when they are dormant between Oct and April when they are best able to withstand the stresses of the lifting (from the nursery), transportation (when I bring them home) and transplanting (when we all do the planting).

## Identification of soil texture

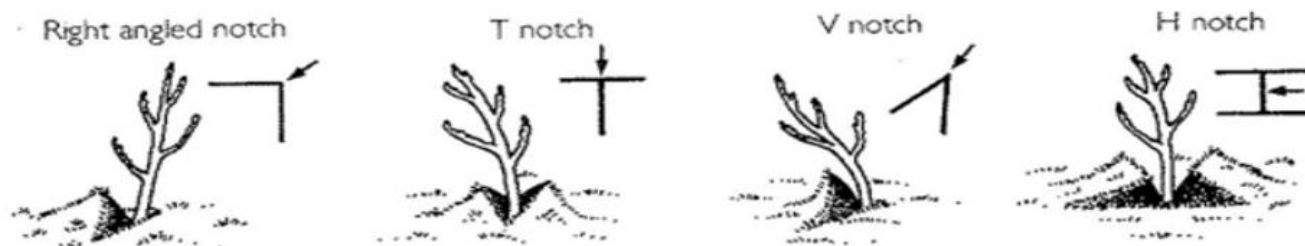
For practical purposes you can assess soil texture by hand (follow the diagram below). Take about a dessert spoonful of soil. If dry, wet up gradually, kneading thoroughly between finger and thumb until crumbs are broken down. Enough water is needed to hold the soil together and to show its maximum stickiness.



(A) Notch planting



(B) Different notching methods



How do we protect and maintain the trees once their planted ?



[rhs.org.uk/soil-compost-mulches/mulch](https://rhs.org.uk/soil-compost-mulches/mulch)



<https://bayoutree.com/mulching-to-protect-baton-rouge-trees-from-freeze-damage/>

- We will use tree-guard's, these are wrapped around the stems of the trees to protect them from rabbits that love to eat the new leaves and the young stems
- Once all the trees have their protection guards on, we will use wood mulch (chippings from ground up trees and branches) around the trees to a depth of 2 – 3 inches, we can check the depths with a ruler, to help conserve water, regulate temperature and prevent weeds tapering the mulch towards the base of the plant making. It is also important to leave about 5-10cm around the plant free of mulch to prevent the risk of rotting the bark
- If we think that the taller trees need some support, we will use stakes. These will be thin lengths of timber or bamboo and will have a point at one end that we push or hammer into the ground and then use adjustable ties (these can be widened as the tree grows until it can support itself) to attach them to the trees.
- Make sure to inspect tree ties during the spring and autumn and adjust to prevent constriction of the stem, the tree should have enough root growth and anchorage after two growing seasons so the stakes could be removed
- Make sure that the roots never dry out or become water-logged, to check use your fingers to dig down 2 – 4" outside the root mass, if the soil feels to dry water
- New plants should be checked and watered every second day for the first 2 weeks and limit to once a week after that depending on rainfall
- Make sure that the mulch is re-applied once it starts to show signs of decay

## Tree Guards & Bamboo stakes



<https://www.thegardenshop.ie/tree-guard/>



<https://www.pitchcare.ie/shop/spiral-tree-guards-45cm-x-38mm.html>

Thanks very much for listening and happy planting

