

THE  
**ASH**  
PROJECT

## Ash Keys to the Future

Education Resource

by Outdoor Studios for The Ash Project

[www.theashproject.org.uk](http://www.theashproject.org.uk)

Most people wouldn't know an Ash tree if it fell on their heads... better prepare yourselves.

JACK DEE

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**The Ash Project is an urgent cultural response to the devastating effects of Ash dieback. This project combines a major new commission by internationally recognised artists Ackroyd & Harvey with a wide ranging community engagement programme, an online archive and a plan for landscape restoration. The project celebrates the natural, cultural, and social history of the Ash Tree, creating an enduring legacy for future generations.**

## Introduction

*Ash Keys to the Future* is a new education resource created by *Outdoor Studios*, supported by *The Ash Project*. The resource presents activities which are designed to create memories that can be part of an archive of the ash tree.

Outdoor Studios has been working with *The Ash Project* and schools in Kent to raise awareness of the plight of the ash tree, following the growing problem of the disease Ash dieback, also known as Chalara dieback of ash, which is affecting more and more of our established ash trees throughout the county of Kent and beyond.

*Ash Keys to the Future* presents a number of potentials that can be explored and experimented with, in and around the school grounds whether inner city or rural. Activities promote a way of working through drawing, writing and experimenting with ash timbers and associated making skills, giving the potential to discover individual unique palettes of materials and site-specific histories related to ash trees in local communities.

This resource is divided into four worksheets, which are designed for outdoor sessions but all can be adapted to suit the classroom environment.

The links listed opposite give further information about *The Ash Project* and the workshops delivered by Outdoor Studios.



### The Ash Project

[www.theashproject.org.uk](http://www.theashproject.org.uk)

### Outdoor Studios

[www.outdoorstudiosarts.com](http://www.outdoorstudiosarts.com)

Ash Keys to the Future; Creative Ash Tree Workshop designed and delivered by artist Martin Brockman from Outdoor Studios with Furley Park Primary School at Brockhill Country Park, Kent. Activities used in Phase One.

[www.youtube.com/watch?v=wPJc6\\_CiQ5E&t=79s](https://www.youtube.com/watch?v=wPJc6_CiQ5E&t=79s)

The elephant-grey bark begins to gleam in a light rain shower. I love this skin of ash, almost human in perfect smoothness when young, with an under glow of green

Roger Deakin, Wildwood, 2006

## Identifying the Ash Tree

### The Ash Tree (*Fraxinus Excelsior*)

The ash tree is known as “The Venus of the Woods”, for its powerful grace and beauty in woodland, landscape and hedge. It has a light foliage and in winter it’s branches with heavy fat black buds make a wonderful noise as they knock together. Its bark is grey and smooth when young, as it ages the bark gets a texture of interesting ridges. (See Appendix 4 for more detail)

The seeds of ash trees are often called keys (or samaras) and they are shaped like a propeller, if you pick a handful of single keys and drop them you can watch them spin to the ground.

The ash tree rarely lives beyond 250 years though there are coppiced trees in Britain that are up to 500 years old.

There are double the amount of ash trees as there are people in Britain today. It is the third most common tree across the UK but the most common tree in the Kent Downs. It shapes our landscapes across fields and hedgerow, woodlands and city streets.

Ash timber is light in colour and straight grained, it is flexible and can be steamed into curved forms. Its timber was used by the earliest settlers in Britain who shaped and made the timber into tool handles, utensils, bowls, chariot wheels, spears and arrow shafts. Ash was also the main wood used in early car manufacturing. It formed the frame of early models of the iconic Routemaster bus and the “Wooden Wonder” Mosquito planes.



### How to identify an ash tree:

[www.theashproject.org.uk/ash-trees/](http://www.theashproject.org.uk/ash-trees/)

### Useful books:

**The Man who made things from trees** by Robert Penn

Published by Penguin ISBN 978-0-141-97751-5

**The Ash Tree** by Oliver Rackham

Published by Little Toller Books ISBN 978-1908213426

## Chalara Dieback of Ash

### Ash Dieback disease

Ash dieback is a fungal disease that has already devastated woodlands in Denmark, Poland, Sweden, Germany, the Netherlands, Austria, and the Baltic states, and looks alarmingly set on sweeping through the British Isles rapidly decimating ash trees throughout the English woodland.

In Kent ash dieback has been damaging a huge proportion of our native ash trees changing the nature of our woodlands forever.

The devastating rate of ash tree decline across the UK is caused by the fungal pathogen *Hymenoscyphus fraxineus*. The disease affects the trees vascular system, the pathogen causes necrosis in the sapwood and affects the trees ability to draw nutrients up into its upper branches. The pathogen first inhabits leaves and twigs which it damages by producing a chemical called viridiol. In summer it attacks the trees leaves and produces spores, which are then spread around the tree in the rain and wind causing more infections.

[www.theashproject.org.uk/ash-dieback](http://www.theashproject.org.uk/ash-dieback)  
Information about Ash dieback

[www.youtube.com/watch?v=YnkoaV3X\\_UQ](https://www.youtube.com/watch?v=YnkoaV3X_UQ)  
The Kent Resilience Manager Tony Harwood explains Ash Dieback and the effect in Kent.

[www.forestry.gov.uk/chalara](http://www.forestry.gov.uk/chalara)  
Forestry Commission information about Chalara Ash Dieback disease. Includes videos demonstrating the symptoms of the disease and Information Sheet by the Forestry Commission





## Worksheet A

### The Tree Ring

#### Activity 1

##### Tree memory

Create rubbings of the tree rings from an ash log.

Place the ink onto a piece of perspex and ink up the roller by running it over the ink. Roller the ink onto the end of the log and then place a piece of paper on top of the inked area. Using a wooden spoon apply pressure onto the paper to transfer the image of the tree rings. Once the tree rings are dry count the rings to age the tree. Work back through the years and record personal dates/events and moments in the tree rings history. Imagine what the tree may have witnessed over the years. The blank area outside the print can be filled with ideas for the trees future along with the pupils hopes for the future.

Alternatively you can print off the 25 year old tree ring from Appendix 1

#### Resources required

Blocking ink  
Rollers  
Perspex sheets  
Ash logs  
Paper  
Spoons  
Drawing materials  
Paper  
Ash Tree ring  
(Appendix 1)

#### Timeframe

Rubbing/ printing  
tree ring:  
30 minutes  
Written activity:  
30 minutes





## Activity 2

### Personal tree rings

Using natural pigments pupils draw concentric circles for each year of their life. In each year events can be added and hopes for the future can be added in future spaces.

### Resources required

Drawing materials:  
Clay /charcoal /ink  
Paper  
Ash Tree ring  
(Appendix 1)

### Timeframe

Drawing tree rings in  
natural pigments:  
30 minutes

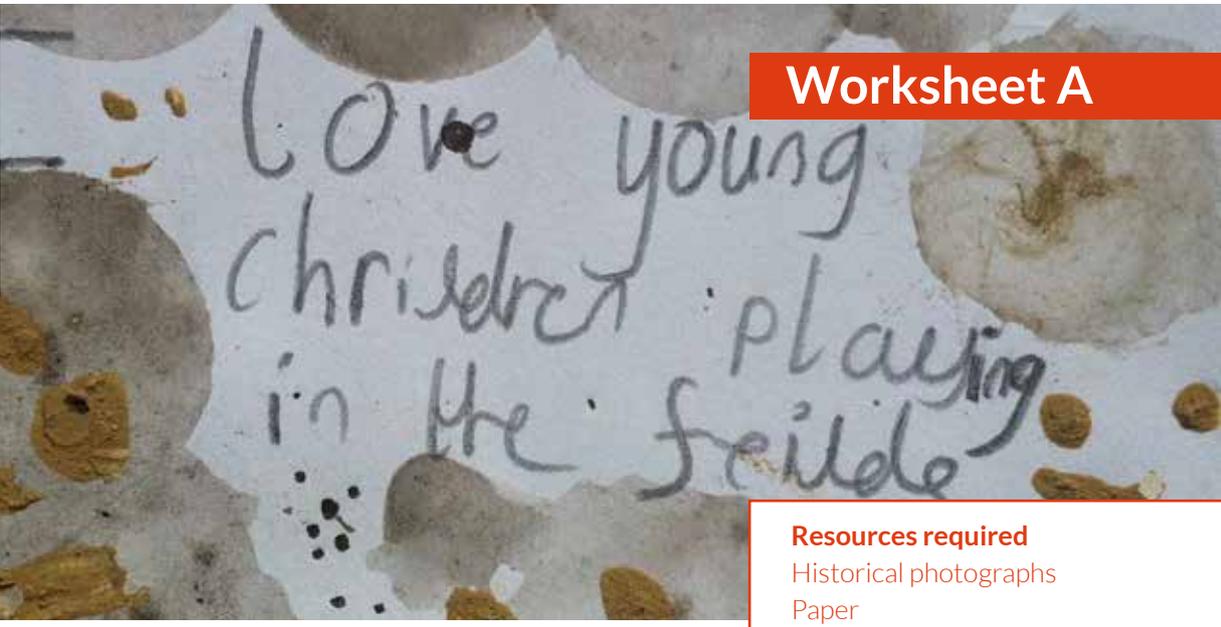


### ASH FACTS

Saxon: The Anglo-Saxon word for Ash is Aesc, the same word used for spear. Straight growing Ash timber was used for spear shafts.

British Mythology: In British folklore a cleft (split) ash trunk could heal a sick child as they passed through it.





Love young  
children playing  
in the fields

### Activity 3

#### Exploring Tree time

Explore tree time, the dormant seed to new seedling in spring and a yearly tree ring of growth upwards and spreading outwards: 150 years for the ash tree, 400 years the oak tree and 1000 years and counting for the yew tree. Count back through the rings to tree memory: wars come and go, kings and queens, the lives and inventions of everyday people that have affected our communities. Trees bears witness to these historical changes.

- Try and find the oldest trees in your school and community.
- Are any of them an Ash tree?
- Can you find the tree in old photographs?
- Make up your own stories around what the old tree would have heard and seen

#### Resources required

Historical photographs  
Paper  
Writing equipment

#### Timeframe

Exploring the school grounds and local area:  
60 minutes  
Viewing historical photographs and discussing local history:  
30 minutes  
Written exercise:  
30 minutes

#### ASH FACTS

Norse Mythology: The Ash Tree is the World Tree, a great Ash Tree located at the centre of the Universe and joining the nine worlds of Norse cosmology together. Its roots reached into the underworld, its branches up into heaven.

#### National Curriculum Links to History

- changes within living memory. Where appropriate, these should be used to reveal aspects of change in national life.
- the Viking and Anglo-Saxon struggle for the Kingdom of England to the time of Edward the Confessor
- Links can also be made to Viking studies in History





## Worksheet B

### The Ash Leaf

#### Activity 1

Observational drawing can be used to help understand and recognise the ash leaf (a compound leaf divided into separate parts). Describe the pattern of the leaf, a central stem with opposite parts in pairs with a single part at the top.

Draw first observations lightly to plan out the drawing then experiment with the materials to describe the leaf as pattern.

#### Resources required

Ash leaves  
Paper  
Natural pigment (Appendix 2)  
Writing equipment

#### Timeframe

Observing and drawing:  
30 minutes  
Creating own pigment:  
30-60 minutes

#### ASH FACTS

The Romans: Roman Natural History writer Pliny The Elder recommended ash leaves as an antidote to snakebites.





## Activity 2

### Observational drawing from Root to Canopy

#### Controlling the marks: Drawing and calligraphy

Observational drawing of the ash leaf and keys using all the repertoire of marks and pigments worked with in earlier exercises. Draw a single Ash leaf or ash key and draw it using observation skills onto a sheet of paper. Ensure the micro details are observed, taking in the structure and texture of the veins, patterns and edges of each individual part of the leaf and keys. Let the natural materials allow experimentation with marks.

#### Drawing a shared drawing and panorama in a group of 4 maximum

Draw a tree from root to canopy with each pupil drawing a particular part of the tree. The group sit in a circle, each person draws a segment of the panorama observed. Try and capture the lightness of the canopy that gives the tree the name Venus of the Woods.

#### Drawing the Ash tree root to branch

Find a suitable ash tree and divide the class into three different groups. Assign group one to draw the ground, roots and trunk, group two to draw the trunk and branches and group three to draw the foliage and tree canopy. Ensure the groups take time to observe the textures and structure. Provide binoculars and magnifying glasses for micro observation and drawing the finer details.

These activities can all be done in a classroom setting using images of the ash tree. Please use link below for a gallery of images that can be used.

[www.theashproject.org.uk](http://www.theashproject.org.uk)

#### Resources required

Natural Pigments (Appendix 2)  
Ash stick pens (Appendix 3)  
Paintbrushes  
Charcoal  
Ink wells  
Paper  
Binoculars  
Magnifying glasses

#### Timeframe

All activities: 60 minutes

#### Curriculum links into the Art syllabus

- to use drawing, painting and sculpture to develop and share their ideas, experiences and imagination
- to develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space
- to create sketch books to record their observations and use them to review and revisit ideas
- to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]





## Worksheet C

### The Ash Timber

#### Activity 1

Exploring ash timber through cutting, cleaving and carving  
One of the important properties of Ash wood is that it can burn when green and fresh or when seasoned, so the small timbers can be used to create a campfires and fire sticks. Groups can light supervised fires and do activities which can include cooking, boiling up inks and making charcoal steamed ash wands and charred wood sculptures.

#### Resources required

Ash log 12" long  
Axe and Maul  
Billhook  
Block to split ash log on  
Safe fire area  
Ash twigs/branches  
Cooking equipment  
Matches/Tinder

#### Timeframe

Cutting and cleaving:  
30 minutes  
Cooking:  
30 minutes  
Charcoal, Ash wands and  
charred sculptures:  
60 minutes

#### ASH FACTS

The properties of ash timber include strength and elasticity and straight grain. These have made it the timber of choice for woodworkers looking to make objects that need to withstand sudden shocks, for example hockey sticks, billiard cues and axe handles. Ash wood steam bends when seasoned and has been used in car and plane construction these include the Lightning Bomber of WW2 and the classic Jaguar car which was part constructed from Ash timbers. In the past it's straight grain and strength has meant it was used for making spears and arrow shafts.





## Activity 2

### The Ash wood as a canvas

Using an axe and mallet split a log in half then quarters, eights, sixteenths and finally halve these to end with 32 ash slabs. Using the drawings, patterns and methods explored in worksheet A to inform drawings on these thin ash slabs.



### Curriculum links into the Science syllabus

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
- investigate the way in which water is transported within plants

### ASH FACT

British Mythology: In British folklore a cleft (split) ash trunk could heal a sick child as they passed through it.





Timeframe  
Rubbing/printing tree ring:  
30 minutes  
Label activity:  
30 minutes

### Activity 3

#### Exploring the inner workings of the tree trunk

Refer to worksheet A and use the tree rings printed from the ash log or printed out from appendix 1. Label the different parts of the tree trunk using the labels below.

**Bark** a tough jacket keeping pests and disease and extreme temperature at bay.

**Sapwood** contains vessel like xylem cells that carry water upwards from the roots

**Heartwood** dead cells at the centre of the tree, the oldest part of the tree.

**Outer bark** made up of dead cells forms a protection.

**Inner bark** has cells that produce new bark as the tree expands.

**Phloem** is the layer in which sap travels round the tree.

**Vascular cambium** is the layer with cells that divide to make the trunk thicker.

#### Curriculum links across

- Pupils' acquisition and command of vocabulary are key to their learning and progress across the whole curriculum. "Teachers should increase pupils' store of words in general; simultaneously, they should also make links between known and new vocabulary and discuss the shades of meaning in similar words."
- Science link: identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers



## Worksheet D

### Ash Words

#### Activity 1

##### Observing the landscape

Observe the surrounding landscape and use the ash pens/natural brushes and natural ink to draw the landscape and include describing words. Thinking of time and place use words to describe the view.

#### Activity 2

##### Walk and draw a sound and word map

Complete a journey through the landscape, using words to map the journey and make field recordings of the flora, fauna, shapes and wildlife you see and hear. Relate this to how the Anglo-Saxon boundary documents use landscape features to describe the boundary.

#### Activity 3

##### The Vocabulary of Ash

Research and handwrite all the particular words and places connected to the ash tree, its timber and how it was used and worked throughout time. Research old forgotten words to describe landscapes and local dialect/vernacular. The vocabulary of Ash, find and handwrite all the particular words connected to Ash tree it's timber and how it was worked.

#### Curriculum links

- use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas

#### Resources required

Large and small sheets of paper  
Ash pens (Appendix 3)  
Foraged landscape pigments (Appendix 2)  
Ink wells  
Old woodworking words (see glossary).

#### Activity 1 Timeframe

Observing/drawing and writing:  
60 minutes

#### Activity 2 Timeframe

Walking, observing and recording:  
90 minutes

#### Activity 3 Timeframe

Researching and recording:  
60 minutes

#### ASH FACT

Welsh Folk song "The Ash Grove": Edward Thomas, poet and soldier in the First World War, revisits this song with his love for the Ash tree in his poem "The Ash Grove".1916.  
[www.theashproject.org.uk/ash-grove-edward-thomas-1916/](http://www.theashproject.org.uk/ash-grove-edward-thomas-1916/)



## Appendix

### Appendix 1



## Appendix

### Appendix 2

#### Creating a palette of natural inks

School grounds and surrounding areas can provide a wonderful unique collection of different natural pigments with which to draw.

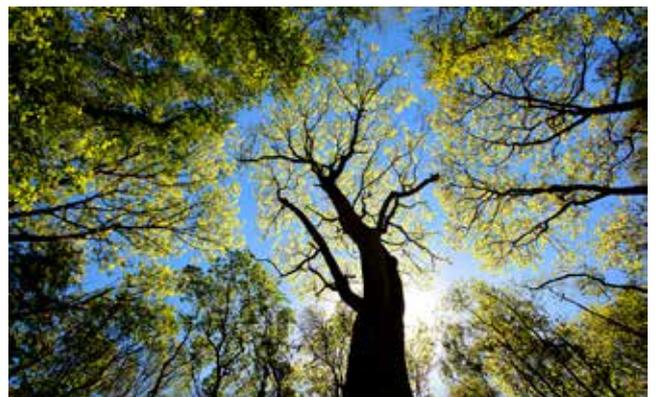
- Sticky oak galls appear in September. Collect these and boil in a pan with rainwater and iron/rusty nails and then watch it change to an ink steeped in history from the Saxon chronicles through to Shakespeare. See below for full recipe.
- Pick berries freeze and then defrost. Extract the juice through a sieve and preserve with salt and vinegar or gum arabic. Experiment with other local plant materials. Add materials to a pan with rainwater and boil them to see what colours appear.
- Dig clays and soils from the ground and add water to make a clay slip paint.
- Rub green leaves onto textured paper and draw into it with clay slip (above) and charcoal.
- Create a paper palette of your pigments naming the plant and material experiment with density and line.

#### Oak Gall Ink Recipe

1. In 5 ltr container crush oak galls to fill 1/3 of the container.
2. Handful Add rusty iron nails
3. Fill to top with rainwater
4. Leave till water turns brackish brown / black
5. Reduce liquid in saucepan to use.

#### Resources required

Rain water  
Oak galls (collected in September)  
Iron (old rusty nails)  
Pan  
Sieve  
Jars for storage  
Assorted bark/foilage / vegetable matter  
Portable stove and pan  
Ink wells and pens  
Charcoal  
vinegar/ salt/ gum arabic  
Spades  
Pots for mixing and storing  
clay  
Watercolour paper





### Appendix 3

#### Ash Pens

Collect ash twigs to create a simple pen nib. These work very well with the natural pigments (Appendix 2). Create pen and ink drawings to make wonderful illustrations of the ash tree foliage, bark texture, seeds and full tree cycle imagery.

To make the pen nib from the ash twig you need to make four cuts :

- Cut 1:** Cut a bevel 3cm from the end of the ash twig. Begin with a sloping cut that levels off half way through the section.
- Cut 2:** Make the shoulder cut 2cm from the tip of the pen again a diagonal cut that levels out as the depth of the far wall is reached
- Cut 3:** Make a vertical cut in the nib
- Cut 4:** Straighten of the nib with a horizontal cut



## Appendix 4 - Ash Tree ID

### Spring

In spring the ash tree flowers, beautiful delicate clusters of purple, green and yellow spay appear from the black buds, along with small clusters of leaves. Ash trees are dioecious, which means there are separate male and female trees. Male and female flowers typically grow on different trees, however a single tree can also have male and female flowers on different branches.



### Summer

In summer ash trees are in full leaf. Leaves are made up of small leaflets on either side of a long stem, this leaf structure is called pinate. There are 9 – 13 leaflets in opposite pairs with one at the end. The leaflets are pointed and gently toothed, with hairs on the lower surface. Female trees will have large bunches of ash keys (seeds) that hang from the branches in clumps.



### Autumn

In autumn ash trees are amongst the first trees to lose their leaves. The leaves often fall while still green, but they may yellow slightly before falling. Ash keys turn brown and fall from the tree in winter and early spring, they are dispersed by birds and mammals.



### Winter

In winter ash trees are identifiable by their thick curving, grey twigs in opposite pairs and the small black velvety buds that appear at the ends. Ash bark is pale grey and it is increasingly host to a variety of lichen.



## Research starting points

### History and Mythology

The Greeks: Greek Nature Deities were nymphs of the ash tree. In Greek mythology, the Meliae were usually considered to be the nymphs of the ash tree, whose name they shared.

The Romans: Roman Natural History writer Pliny The Elder recommended ash leaves as an antidote to snakebites.

Norse Mythology: The ash tree is the World Tree *Yggdrasil*, a great Ash Tree located at the centre of the Universe and joining the nine worlds of Norse cosmology together. Its roots reached into the underworld, its branches up into heaven.

Saxon: The Anglo-Saxon word for ash is Aesc, the same word used for spear. Straight growing ash timber was used for spear shafts.

British Mythology: In British folklore a cleft (split) ash trunk could heal a sick child as they passed through it.

### The Venus of the woods: Ash timber in art and poetry

In 2017 The Ash project commissioned artists Ackroyd and Harvey to create a major environmental artwork about Ash dieback

[www.theashproject.org.uk/art/](http://www.theashproject.org.uk/art/)

[www.ackroydandharvey.com/category/works/](http://www.ackroydandharvey.com/category/works/)

Constable loved painting Ash trees in his landscape paintings, you can find them in his painting Flatford Mill. [www.tate.org.uk/art/artworks/constable-flatford-mill-scene-on-a-navigable-river-n01273](http://www.tate.org.uk/art/artworks/constable-flatford-mill-scene-on-a-navigable-river-n01273)

Edward Thomas poet and soldier in the First World War shows his love for the Ash tree in his poem "The Ash Grove".1916.

<https://www.theashproject.org.uk/ash-grove-edward-thomas-1916/>

The sculptor David Nash has created an iconic living sculpture title 'Ash Dome'. In 1977 Nash cleared an area of land near his home in Wales where he trained a circle of 22 ash trees to grow in a vortex-like shape to form the artwork.



## Glossary

### Woodworking terms connected to the ash tree

**Aesc:** Saxon name for the Ash Tree

**Billhook:** Hand tool with sharp edge used to coppice small growth shoots

### Chalara dieback of ash:

**Coppice:** Trees that are cut close to the ground every few years and grow again from the stool

**Cleave:** To split timber down the grain

**Downland:** A downland is an area of open chalk hills. This term is especially used to describe the chalk countryside in southern England. Areas of downland are often referred to as downs, deriving from a Celtic word for "hills"

**Fraxinus:** Latin name for Ash, meaning firelight, ash burns well when dry and fresh cut

**Froe:** Woodworking tool used to cleave (split) wood down the grain

**Grain:** The growth rings when cut along their length. Ash has a very straight grain

**Grove:** A small wood

**Growth rings:** Rings in the wood produced by yearly layers of growth

**Leaf:** Part of the used by the plant to turn sunlight to tree growth. Ash have a leaf divided into 9-13 leaflets

**Photosynthesis:** A way of using sunlight to grow. Photosynthesis is the chemical change which happens in the leaves of green plants. It is the first step towards making food - not just for plants but ultimately every animal on the planet

**Pollard:** A tree cut 6 feet up to produce new growth above cattle height

**Pollen:** Dust like grains that contain the male cells of a flower

**Pollination:** The movement of pollen to enable the tree to make seeds

**Sap:** A liquid containing sugars and dissolved substances that moves up and down the tree

**Seed:** Tough packages of living cells that most trees use to reproduce, each seed contains a tiny embryo plant and a food supply

**Timber:** Stems big enough to make beams and planks

**Underwood:** Coppice and pollard poles

**Venus:** Greek goddess of love

**Wildwood:** Vegetation before the impact of Neolithic people

**Xylem:** System of cells a plant uses to move water, stretching from the tip of the roots to the leaves

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