Notes to accompany Forest Cycle photo presentation

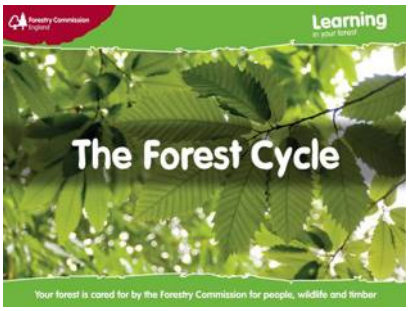


Photo 1 – Introduction

The Forestry Commission was set up nearly 100 years ago in 1919, to grow timber for the UK. Today we care for more than 1500 woods and forests (one-fifth of all the forests in the UK), and our task is to protect, improve and expand them. Forestry Commission woodlands belong to the people of this country, you and me!

You may have heard about the water cycle, but what about the forest cycle? The forest cycle is the story of how we manage the nation's forests and woodlands for timber, people and wildlife.

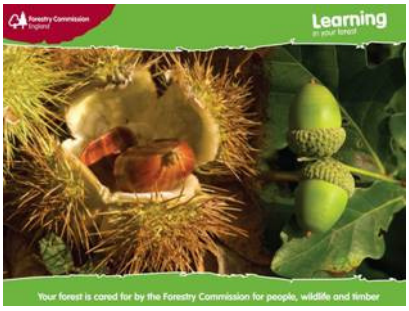


Photo 2 - Seeds

All trees produce seeds, and this is where the 'Forest Cycle' begins.

Q: Do you know which tree each of the seeds in the picture come from?
A: The acorn (right) is from an oak tree and the nuts in the prickly case are from the sweet chestnut tree.



Photo 3 – Nursery and natural regeneration

Trees are grown from seeds in two different ways. In some places, seeds fall to the forest floor where they grow without our help (natural regeneration). In other places, seeds are collected from the forest and then planted in a nursery.
In the main photo, oak trees are growing in a nursery; in the small photo, a young horse chestnut is growing on the forest floor (from a conker)

Q: What four things do the seeds need to germinate and grow?
A: Soil, light, air and water.



Photo 4 – Nursery

In the nursery, when the small trees have started to grow, they are planted out in the nursery grounds to continue growing on.



Photo 5 – Planting out at a new native woodland site

When the young trees, or saplings as they are called, have grown large enough they are dug up from the nursery bed and planted out, by hand, in the forest soil.



Photo 6 – Young conifer forest

In a young conifer forest like this one, the trees are planted close together. Conifers have thin, needle shaped leaves, and grow their seeds in cones.

Q: Can you think of a type of conifer tree that is used to celebrate a special day in the middle of winter? Have you ever had a real Christmas tree? Are trees used to celebrate any other festivals in other cultures or countries?
A: The traditional Christmas tree is the Norway spruce, but other species of tree are now also sold as Christmas trees



Photo 7 – Protecting young trees in tree guards

Some young trees need protection from animals that may want to nibble their leaves and stems.

Q: What sort of animals do you think trees need to be protected from?
A: Fences are often put around newly planted areas to keep deer out, and individual trees may be protected from squirrels and rabbits with plastic tree guards.



Photo 8 – Different forests

All forests and trees are different – some are old, some young, some are deciduous (trees that lose their leaves in the autumn) and some evergreen (trees that don't lose their leaves).

Some of our forests are made up mostly of conifers (trees that have cones, most of which are evergreen), and some forests consist of broadleaf trees (mostly deciduous, for example oak, ash, beech). Some forests are a mixture of conifers and broadleaves.

Q: Can you see any differences between the forests in these photos?



Photo 9 - Thinning

About 15-25 years after being planted, depending on the species, the trees are thinned out. The forester marks some trees that are to be cut down, or 'felled'. This gives the remaining trees more space and light, allowing them to grow better, with less competition from other trees.

As the trees grow and mature, they produce seeds each year that can be collected or allowed to germinate naturally on the forest floor.



Photo 10 – Chainsaw operator

Sometimes thinning is done using a chainsaw. This is a skilled job as the chainsaw operator has to work out in which direction they want the tree to fall, and then cut the trunk in the right way so that it falls exactly where they want it to go.

Q: Do you know anyone who works in the forest cutting down trees, or doing any other jobs with wood or timber?
A: Jobs could include forest rangers, people who work in sawmills or even in DIY shops which sell wood and wood products



Photo 11 – Harvester

When the trees are fully grown (about 60 years for conifers, but sometimes more than 150 years for broadleaves such as oak), they are ready to be felled.

A machine called a harvester is used to cut down a large area of trees. This is a big, powerful machine that can cut down a tree, strip its branches, calculate the volume of timber and cut the trunk into logs, all in less than one minute.



Photo 12 - Forwarder

The logs are then picked up by another machine called a forwarder, which carries them to the edge of the forest track and stacks them in a big pile.

Q: Have you ever seen any of these machines at work in the forest?



Photo 13 – Safety in the forest

When trees are being felled and there are big machines working in the forest, it is really important to follow any instructions or warning signs.



Photo 14 – Timber lorry

A timber lorry collects the logs from the side of the forest track.



Photo 15 - Sawmill

Many of the logs are taken to a sawmill. The bark is removed and the logs are cut or 'sawn' by machines into planks of wood, which can now be used to make all sorts of things.

Q: How many things can you think of that are made from wood?
A: Paper, building materials, fences, sheds, bird boxes, pencils…

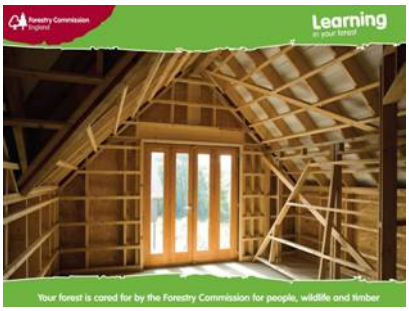


Photo 16 – Wood as a building material

Wood has been used for centuries as a building material, and has been used to make the timber frame of this new house.

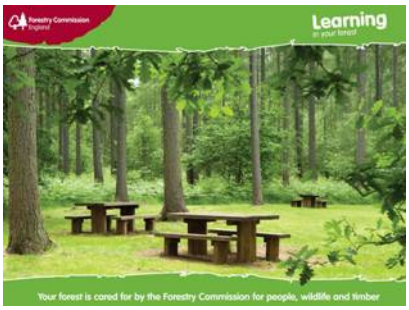


Photo 17 – A picnic site in the forest

Wood is also used to make furniture for inside our homes, and outside.



Photo 18 – Firewood

Some of the poorer quality timber from the forest is used as firewood, or may be made into small pellets and burnt in a stove or wood burner like this one, to heat our homes and hot water. Wood is a good source of fuel as it burns more cleanly than fossil fuels like coal.

Using wood for fuel can also help to reduce climate change as it is a 'carbon lean' fuel. Burning wood releases carbon dioxide, but this is balanced by the carbon dioxide absorbed by the original trees, and in the growth of new ones, in the process of photosynthesis.

Q: How are your school and your home heated? Do you have a wood burner, and if so, where do you get your wood from?



Photo 19 – Horse riding in the forest

Although the production of wood is really important, forests are not just for timber – they are for people and wildlife too.

Q: Before you look at the next photos, can you think of any other activities that people can do in a forest?



Photo 20 – Cycling and mountain biking

There are cycle trails in many forests around the country, from easy family trails to challenging downhill mountain biking routes.



Photo 21 – Walking the dog



Photo 22 – Go Ape

There are Go Ape high ropes courses, right up in the top of the trees, at several Forestry Commission forests around the country. There are also Junior Go Ape courses at some sites for younger visitors.



Photo 23 – Learning

Schools and other groups visit our forests to learn more about how they are looked after for timber, people and wildlife. These girls have been looking for seeds and cones, and learning about trees.



Photo 24 – Play

People of all ages are welcome to visit the forest to play, explore and have fun. These boys have built a den in their local woodland.

Q: Have you visited a forest with your family or friends or school? What activities did you do?

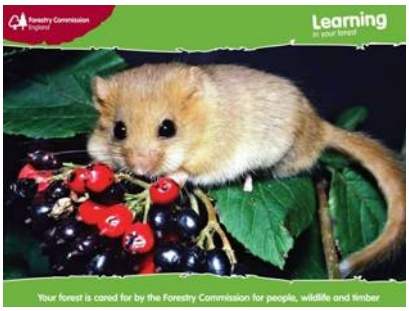


Photo 25 – Dormouse

As well as being fun places to visit, forests provide important places for wildlife to live. The forest environment has lots of different habitats to support a wide variety of woodland animals, birds, reptiles, minibeasts and plants.

This picture shows a dormouse. It has a long furry tail and large black beady eyes. It hibernates for about six months of the year, and can spend nearly three quarters of its life asleep. Dormice are excellent tree climbers and in the summer almost never go down to the ground. They can climb out onto even the thinnest twigs as they search for food amongst young trees.



Photo 26 – Buzzard

This is a buzzard, the most common bird of prey in the UK. Buzzards use their powerful eyesight to hunt in the day, often dropping down on small mammals, such as voles and rabbits, from a tall perch.

If you see a single tree trunk left standing in an area where all the others trees have been cut down, it has probably been left deliberately to give buzzards and other birds of prey a place from which to search for their prey.



Photo 27 – Pearl bordered fritillary

This butterfly is called a pearl bordered fritillary. It lives in woodland clearings where trees have recently been cut down and where there are open areas of grass. Mowing either side of forest tracks in autumn opens up the woodland floor to the sun, which encourages the growth of wild flowers that these, and other, butterflies need to feed on.



Photo 28 – Fallow deer

There are six species of deer living wild in the UK: red deer, fallow, roe, sika, muntjac, and chinese water deer. Only the red and roe deer are truly native to Britain.

The fallow deer, shown here, was first brought to this country by the Normans in the 11th century. Deer are generally shy creatures so you have to be quiet if you want to see them when walking in the woods.

Q: Have you ever seen a deer whilst walking in the woods? Can you think of any other animals that live in forests in England? Have you visited a forest in another country? What different kinds of animals live there?



Photo 29 – Adder

This is an adder, the only venomous (poisonous) snake in the UK. It has a dark zigzag running down the length of its back. Adders are not aggressive animals and will only use their venom (poison) to defend themselves, usually if they are caught or trodden on. No-one has died from an adder bite in Britain for over 20 years. If you are ever lucky enough to see an adder, treat it with respect and leave it alone.



Photo 30 – Bluebells

Bluebells carpet some forest floors in springtime. We are very lucky in the UK as nearly 50% of the world's bluebells can be found here! Did you know that in the Bronze Age people used bluebell root glue to fix feathers to their arrows? Bluebells are now a protected flower and should not be picked.



Photo 31 – Caring for the forest

Although we cut down trees and use the wood for making things, the most important part of the forest cycle story is that we always replace the trees that have been cut down. By planting new trees, or allowing them to germinate naturally, there will always be forests for us to enjoy and a place for wildlife to live. This makes the way that we look after our forests sustainable.

When you buy something made from wood, look out for the FSC logo shown in this photo – the FSC is a system that makes sure that woods and forests are cared for sustainably and are kept safe from harm.

Q: What sort of harm could be caused to a forest?
A: Think about litter, forest fires, tree diseases (many recent imported examples e.g chalara ash dieback) and, in some countries, illegal felling and clearing, where the trees are not replaced.

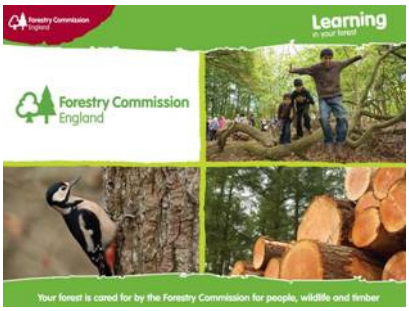


Photo 32 – Visiting the forest

All the photos in this presentation were taken in forests which are cared for by the Forestry Commission.

Q: What are the three main things that Forestry Commission woodlands are managed for?
A: Forestry Commission forests are managed for timber, people and wildlife.

Q: Why are forests important to people?
A: Places for recreation, production of timber, jobs, oxygen…

Q: Why are forests important to wildlife?
A: Homes, food, shelter…

Q: Are you planning to visit a Forestry Commission woodland with your class or your family soon? What will you do? What do you think you will see?

For more information about visiting the forest, and activities to do there, go to www.forestry.gov.uk/england-learning