

Old Chalk New Downs Education Pack

Introduction

This education pack was designed by Anna Outdoors and is packed full of creative resources and ideas for teachers, practitioners and parents, inspired by the habitats and heritage of the North Downs. We hope that the contents of this pack will give you fresh ideas and spark practical activities that will inspire you to take learning beyond the classroom walls.

The first-hand experiences of learning outside the classroom can help to make subjects more vivid and interesting for pupils and enhance their understanding. It can also contribute significantly to pupils' personal, social and emotional development.

(Ofsted, Learning outside the classroom. 2008)

We hope that the contents of this pack will encourage you to look at outdoor learning in a new way, not as a subject in its own right, but as a tool which provides a wealth of cross-curricular opportunities. Most importantly, this educational toolkit should act as a treasure trove! Once opened we hope it will enhance Early Years, Key Stage 1 and 2's understanding of the North Downs and provide adventures that stimulate children's imaginations for years to come.

Enjoy investigating, experiencing and exploring!



How to use the pack

All of the activities in the pack come with information for teachers, practitioners and parents to use to help deliver the activities. At the top of each activity page is a flag indicating which key stage it is suitable for. Some of the activities also come with worksheets which include instructions for the children to follow. This information is summarised in the table below:

Activity	Suitable for	Activity description for teachers, practitioners or parents	Worksheet(s) with instructions for children
1. Dressing for the downs	EYFS, KS1 & KS2	✓	✓
2. Setting the scenery	KS1 & KS2	✓	
3. Environmental footprints	KS1	✓	✓
4. Degrees on the downs	KS2	✓	✓
5. Plant prints	EYFS, KS1 & KS2	✓	
6. Geometric minibeasts & plant patterns	KS1 & KS2	✓	
7. North Downs animal addresses	KS1 & KS2	✓	✓
8. Delicious downland cake	KS1 & KS2	✓	
9. Chalk hill figures	KS1 & KS2	✓	✓
10. Chalk grassland colouring and spotter sheets	EYFS, KS1 & KS2	✓	✓

Equipment

For each activity, a list is provided of the required equipment. Below is a list of equipment which will come in useful for all of the activities or whilst out exploring the chalk grasslands of Kent.

- Pen/pencil
- Colouring pens/pencils
- Scissors
- Clipboard
- Magnifying glass
- Binoculars

• Risk assessment or risk benefit assessment

Here are some links to risk/benefit assessments that could be used for your activities



Play England:

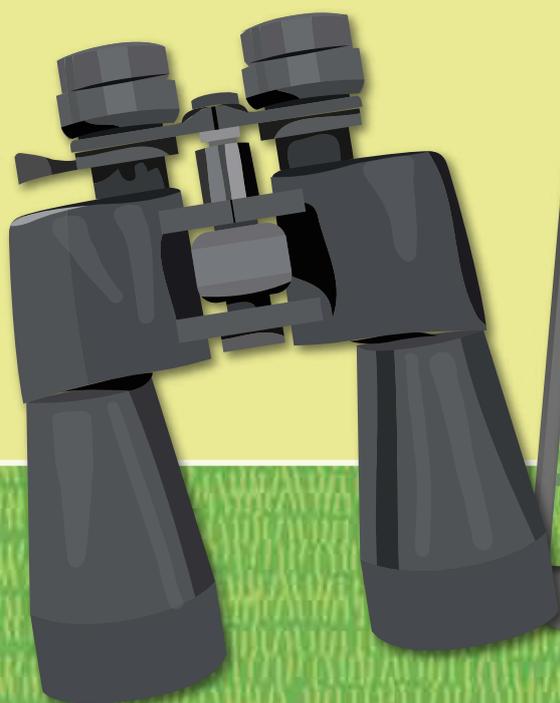
www.playengland.org.uk/resource/risk-benefitassessment-form



Outdoor Classroom Day:

<https://outdoorclassroomday.org.uk/resource/riskbenefit-assessment-form>

Risk/benefit assessments works on the basis that each activity needs to be looked at not only from the risk, but also from the benefit that undertaking the activity will achieve.



About the Old Chalk New Downs project

Background information for teachers, practitioners, and parents

The Old Chalk New Downs project (2017-2021) is a landscape scale project funded by the Heritage Lottery Fund and managed by Kent County Council. The project focus is on restoring chalk grassland and other downland habitats in North Kent. The project area (shown in map below) covers almost 10,000 hectares along the North Downs from Kemsing, through Cobham, to Detling.



Map showing The Old Chalk New Downs project area

Much of this precious landscape has been lost or become fragmented, making it difficult for its unique wildlife to spread and survive. Fragmentation has also led to people losing connections with nature and their local environments, often referred to as "nature deficit syndrome".

The Old Chalk New Downs project looks to address these issues through work to improve, restore, and reconnect threatened chalk grassland habitats, while addressing the loss of people's connection with their natural environment through a variety of awareness raising and engagement schemes.

Capital works and land management support for landowners will be complemented by a host of community engagement activities which will include volunteering opportunities, learning and skills development, surveying and monitoring, public access improvements, a programme for schools, and digital and interactive resources.

Chalk downland and the North Downs

Chalk grassland (or chalk downland) is one of most special wildlife habitats in the UK. The patchwork of habitats which make up the distinctive chalk downland landscape are influenced by its geology; the rocks that lie underneath the ground. The North Downs are a ridge of chalk hills which support several important habitats including chalk grassland, scrub, woodlands (ancient and coppice woodland, veteran trees and wood pasture), traditional orchards, chalk rivers, hedgerows and farmland.

'Downs' is from the Old English word dun, meaning, amongst other things, "hill".

Chalk grassland is one of the richest habitats in Western Europe, containing a great diversity of plants and animals. However, it is now very rare and fragmented and is of international conservation importance. Kent holds 5% of the UK resource (there are approximately 1900 hectares in the county (ARCH Kent Habitat Survey 2012)) and the UK holds 50% of the world's surviving old chalk grassland resource. Although there appears to be a lot of chalk grassland in Southern England, if we compare it to the total amount in the world, it is incredibly rare.

The beauty and special qualities of the North Downs landscape were recognised with the Surrey Hills Area of Outstanding Natural Beauty (AONB) designation in 1958 and the Kent Downs AONB designation which followed in 1968.

Geology

The landscape of the North Downs is shaped by the distinctive steep ridge (escarpment) of chalk which stretches from Farnham in Surrey to the White Cliffs of Dover. Although chalk is the dominant rock within the landscape, at the foot of the ridge patches of clay and sandy soils are common in south facing dry valleys, known locally as 'coombes.' It is these more fertile and lighter soils which make ideal conditions for arable farming. "The mix of light, workable chalky soils on the valley sides and heavy clay soils on the plateau country, mantled in places by sands and gravels, has led to a long history of mixed farming practices which have co-existed for centuries." (Natural England, 2013).

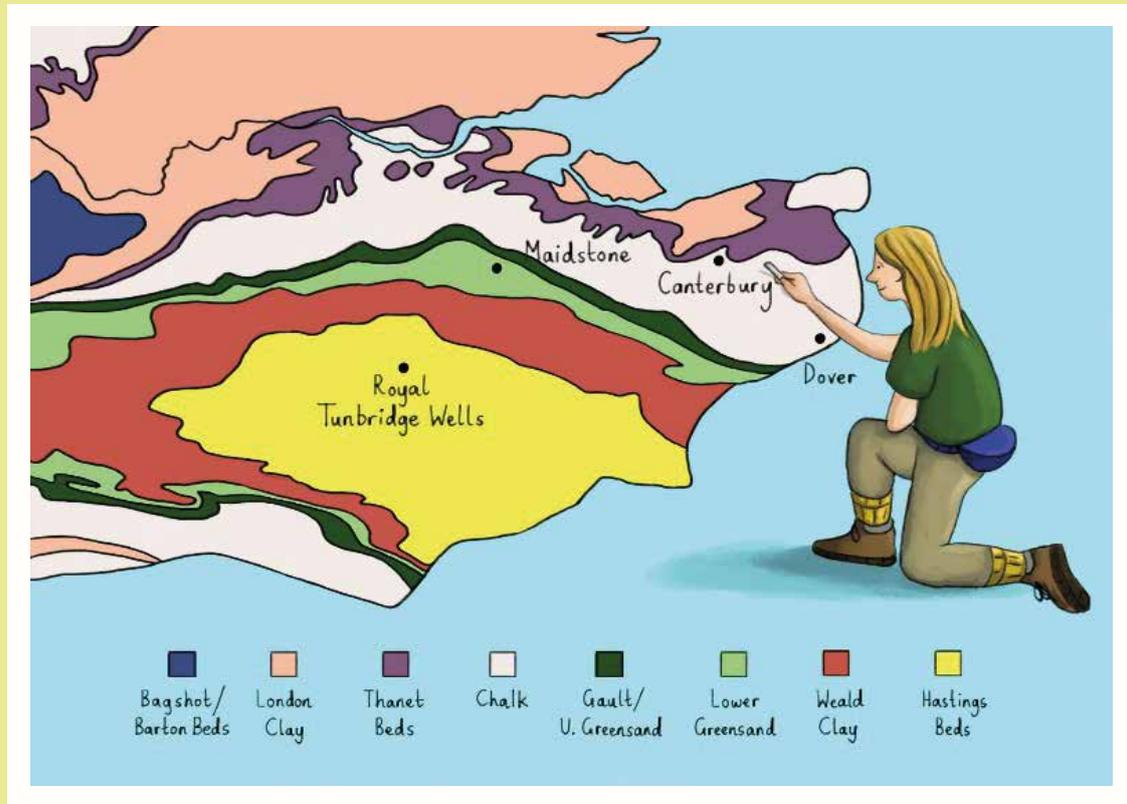
The geology of the North Downs is the result of erosion and deposition over millions of years.



Chalk soils at Ramscombe Farm



The North Downs chalk was formed from the skeletons of tiny marine organisms which lived millions of years ago when Kent would have been covered by warm, tropical seas! Chalk contains tiny holes like those in a sponge which allow it to hold water.



Map showing the geology of Kent

Chalk

Chalk has been used to improve land productivity for centuries, by neutralising acidic soils on which it is scattered. Prior to major quarrying works, chalk was dug from the downs in small quantities from quarries, pits and shafts, known locally as deneholes. If you look carefully many of these features can still be seen dotted throughout the landscape. The number of small chalk pits declined as fertilisers and lime products replaced the use of chalk.

During the Industrial Revolution chalk quarrying was increased dramatically for cement production amongst other things. The impact of extensive quarrying throughout the Medway valley is still evident today.

The 'Industrial Revolution', refers to the process of change from an agrarian and handicraft economy to one dominated by industry and machine manufacturing. This process started in Britain in the 18th century and from there spread to other parts of the world.

Wildlife importance

As areas of rare and unique wildlife, chalk grasslands have been likened to rainforests for the diversity of species they support. It is estimated that we've lost 80% of our chalk grassland over the last 60 years. This fragile habitat is home to rare orchid species as well as black veined and straw-belle moths, found only within the North Downs.

'The State of Kent's Wildlife' (Kent Biodiversity Partnership, 2011) illustrated that during the last century Kent has seen major losses in wildlife and many of the species that remain have seen big population declines. Hundreds of years ago, Kent was covered by mixed woodland. Then man began to make clearings for farming and the regrowth of shrubs and trees was kept at bay by grazing animals. This allowed other species which prefer more open spaces to thrive. Rich and diverse wildlife communities developed on this habitat and this man-made landscape evolved into the chalk grassland we now cherish.

Unfortunately, man's continued pressure on the land has had a negative effect over more recent decades. Over- and under-grazing, building development and use of chemicals have had a detrimental effect on the wildlife depending on this land for survival. Conservation grazing is a sustainable and natural way to maintain chalk grassland, and other threatened habitats, for what have become increasingly rare, species of plants and animals, birds and insects.

Carefully developed management plans are essential to ensure the right balance of the chosen grazing maintains or restores the habitat. Grazing is a gentler way to maintain the balance, causing less disruption to wildlife than mechanical cutting or burning. As the livestock moves around the site, they can reach areas difficult for machinery to access. The less-mobile species are safer from harm when grazing is employed as a method of land management.

The way the animals graze a pasture allows less competitive species to establish, as the more dominant plants are chosen to eat. Wandering the fields, the combination of the animals eating,

trampling, lying on and crushing the land, along with the dung left behind, leaves a patchwork of micro-habitats.

This mix of different lengths of grass provides ideal areas for ground-nesting birds like skylarks. Bare patches become nurseries for seedlings and warm patches are loved by reptiles and invertebrates. Lower density grazing numbers are healthier for the livestock as well as the soil - the lower requirement for chemical control of parasites means dung piles provide homes for hundreds of types of insect, which in turn feed animals such as birds, bats and badgers.

A wide variety of animals may be used for grazing including cattle, sheep, goats, ponies, deer and even water buffalo. Unusual and rare breeds are often used as they may have particular eating habits, preference for certain plants or suitability for difficult terrains. Different places will also benefit from grazing in certain seasons, according to which wild plants are being encouraged.

The resulting biodiversity provides us all with a spectacular landscape to get out into and enjoy.

Chalkhill Blue Butterfly



Adder



Skylark



History

The distinctive ridge of chalk hills which form the North Downs with its steep-sided south facing escarpment and flatter land to the South, has influenced man's interaction with the landscape for centuries. Early occupation of the downland region was mainly focused along the river valleys, where the flatter, fertile land at the foot slope of the chalk ridge could be farmed more easily.

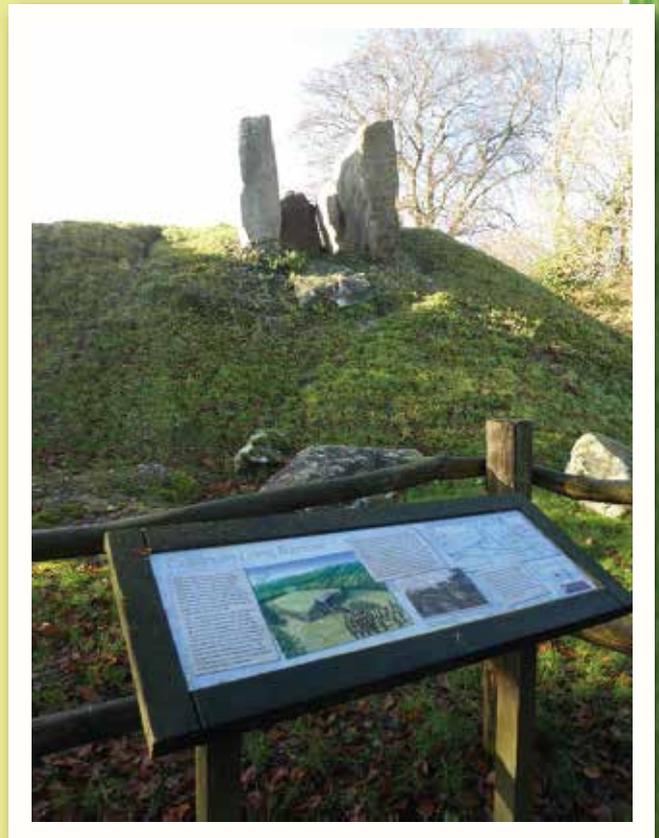
Archaeologists date the first evidence of arable farming and pastoralism in the North Downs to the Neolithic, the 'new Stone Age' period which began in Britain about 6000 years ago. It is thought that the Kent landscape was mainly covered with deciduous woodland during the early Neolithic period and that removal of wooded areas to provide fields for growing crops, such as barley and wheat and pasture on which livestock would graze, was patchy and followed no set pattern. The emergence of Neolithic culture and the gradual shift from Mesolithic hunter-gatherers to a more settled and communal way of life was a revolutionary time in history.

The burial places of these early farming communities, known within the locality as the 'Medway Megaliths,' are examples of the oldest field monuments and remain key features of the North Downs landscape. The Kit's Coty House and the Coldrum Stones long barrows provide evidence of the Medway Valley's vibrant and pioneering farming community. Both monuments are constructed of sarsen stone, a naturally occurring sandstone.

Around 500 BC Celtic (Iron Age) settlers began to occupy the North Downs and gradually brought about the shift from bronze to iron technology. Iron Age and Roman settlements tended to be concentrated along the fertile river valleys of the Darent and Medway. This is evidenced by archaeological discoveries of Iron Age pottery at Luddesdown Court, near Cobham and by Lullingstone Roman Villa.

Archaeological evidence suggests that the settlement pattern of villages, hamlets and fields dotted throughout the North Downs and still evident to this day, can be traced to the Anglo-Saxon period when clearance of woodland and scrub was extensive as population levels increased. "The downland region provided areas of temporary summer pasture for Anglo-Saxon estates aligned across the downs and extending into the Weald." (Natural England, 2013).

During the medieval period, as population continued to increase, extensive areas of pasture and woodland were converted to arable farming. This was only to continue with the start of the agricultural revolution. The lower slopes of the North Downs underwent widespread cultivation during the 18th and 19th centuries and this continued during the World Wars. Unsurprisingly the growth in arable farming resulted in the reduction of



The Coldrum Stones, located near the village of Trottiscliffe



Interpretation panel at Coldrum Long Barrow

areas of unimproved chalk downland, which were either lost to the plough or because they began to gradually scrub over as crop production surged and livestock numbers declined.

Over the centuries the North Downs landscape has gone through many stages of reclamation and abandonment in response to market conditions and population pressures. During the 19th century hop gardens were a key feature of the Kentish landscape and the North Downs were no exception, despite their unfavourable clay-flint and chalk soil.

This is evidenced by the oast houses which can still be seen high on the North Downs.

Historically much of the woodland on the downs was cleared for building materials or as a source of fuel but as these demands changed many woodlands became neglected. The 1987 storm damaged much of the woodland on the exposed scarp with mature beeches particularly vulnerable to the wind. Woodland remains an important feature through the shaw hedgerows and bands of yew and mixed woodland along the top of the chalk escarpments. In recent years there has been increased demand for timber so neglected coppice woodland has started to be managed once again, adding to the diverse mosaic habitat of the chalk downs.

A line of defence

The chalk ridge not only formed natural pathways but also a natural defensive line used for fortifications. For example, Thurnham Castle was used as a fortification and watchtower since Roman times.

The North Downs had been the scene of intense military activity during World War 2. The land that now forms Trosley Country park was part of an officers' training camp throughout the war. You can still see a climbing wall, concrete lookout platform and pumping house from the war. After the war, the land became derelict.



CADETS ROBERTSON AND TRAVERS-CLARKE receive instruction in map reading and the use of the prismatic compass. The former, who comes from the Isle of Skye, has chosen the Royal Army Service Corps, whereas Travers-Clarke, whose interests lie elsewhere, hopes to be gazetted to the Royal Engineers when he passes out of the O.C.T.U. to which he will be posted.

The Officer Cadet Training Unit (OCTU) practice their map reading
Kind permission of Paul Baylis



Bayonet practice on the North Downs
Kind permission of Paul Baylis



STRETCHER-BEARING under difficulties. Candidates for the Royal Army Medical Corps do a Pre-O.C.T.U. training which is quite as tough as any other courses

The challenges of the chalk escarpment
Kind permission of Paul Baylis

Interesting facts....

An inspiring landscape

When it comes to creativity, the landscape of the North Downs has many claims to fame. It has inspired writers such as Jane Austen and artists such as Samuel Palmer and Thomas Hennell. Charles Darwin, who lived very close to the downs found inspiration for his greatest work, the theory of evolution.

The Pilgrims' Way

The east to west ridge of the North Downs provided a transport route which was used for centuries and dated by archaeological finds to 600-450 BC. The Pilgrims' Way refers to the historical route which was taken by pilgrims to pray for St. Swithun who was buried at Winchester Cathedral. The route was then used for pilgrims journeying to Canterbury Cathedral to pray at the shrine of Thomas Becket.

The North Downs Way

The North Downs Way National Trail is a long-distance path (153 miles) which opened in 1978, running from Farnham to Dover. The Pilgrims Way and North Downs Way follow much of the same route, however the North Downs Way tends to stick to the top of the chalk ridge where possible.

Natural England, 2013. National Character Area Profile 119. North Downs.
www.naturalengland.org.uk

Kent Biodiversity Partnership, 2011. The State of Kent's Wildlife.

Assessing Regional Habitat Change, 2012. Kent Habitat Survey, Executive Summary.

Ofsted, 2008. Learning outside the classroom, How far should you go?
www.lotc.org.uk/wp-content/uploads/2010/12/Ofsted-Report-Oct-2008.pdf

Green gateway sites

Bring the activities in our education pack to life by adventuring outside of the classroom and exploring Kent's downland landscape. Trosley Country Park and Ramscombe Farm are located within the Old Chalk New Downs project area and provide ideal locations for many of our activities.

Experience the benefits of a well-organised outdoor adventure by contacting the sites prior to visiting and confirming the relevant risk assessments and arrangements are in place.

Trosley Country Park

Kent County Council, Waterlow Road, Vigo Village, Meopham, Kent, DA13 0SG

Once part of the Trosley Towers Estate, Trosley Country Park is now home to a rich variety of wildlife, and a mixture of woodland and open chalk grassland slopes. The chalk grassland at Trosley is classified as a Site of Special Scientific Interest, while the grassland supports an array of butterflies every summer, including the Chalkhill Blue. There are 3 waymarked trails - the Downland Trail is very steep in parts, while the Woodland Walk is much gentler. The Trosley Trail is suitable for buggies and wheelchairs. All provide spectacular views over the downs. There's also an outdoor trim trail should the steep paths not prove tough enough. For the more adventurous, the park is also a good base to visit the Coldrum Stones, an ancient listed monument of 15 sarsen stones.

To enquire about booking an education session please e-mail kentcountryparklearning@kent.gov.uk



Ranscombe Farm Reserve

Plantlife, Ranscombe Farm Nature Reserve, Cuxton, Rochester, Kent ME2 1LA



Ranscombe Farm Reserve is situated on the stunning North Downs and is a Site of Special Scientific Interest. It is managed by Plantlife, the UK's leading wildflower conservation charity. This 560-acre reserve has 10km of footpaths to explore across ancient farmland, pockets of chalk grassland and coppice woods with stunning views across the Medway Gap and Luddesdown valley. The site is famous for its extremely unusual collection of rare wild plants, especially arable wildflowers and orchids. Species of note are the tall pink Corncockle, once thought to be extinct, and the internationally rare Broadleaved Cudweed. There are several varieties of wild poppies that form rich red carpets along the edges of the farm's wheat fields from late May, and Blue Pimpernel, Wild Pansy, Venus's Looking Glass and Dense Flowered Fumitory can also be spotted. The woodlands are now being managed for conservation and have good populations of dormice, birds, large mammals, butterflies and insects.

<https://www.plantlife.org.uk/uk/nature-reserves-important-plant-areas/discover-ranscombe/explore-ranscombe/schools-at-ranscombe>

For outreach activities please contact Anna Outdoors:

www.annaoutdoors.co.uk
info@annaoutdoors.co.uk





The Countryside Code

When visiting one of the North Down's green gateway sites please remember to follow the Countryside Code and any additional requirements of the landowners and site managers.

Respect Protect Enjoy

Respect other people

- Consider the local community and other people enjoying the outdoors
- Leave gates and property as you find them and follow paths unless wider access is available

Protect the natural environment

- Leave no trace of your visit and take your litter home
- Keep dogs under effective control

Enjoy the outdoors

- Plan ahead and be prepared
- Follow advice and local signs

Respect other people

Please respect the local community and other people using the outdoors. Remember your actions can affect people's lives and livelihoods.

Consider the local community and other people enjoying the outdoors

- Respect the needs of local people and visitors alike – for example, don't block gateways, driveways or other paths with your vehicle.
- When riding a bike or driving a vehicle, slow down or stop for horses, walkers and farm animals and give them plenty of room. By law, cyclists must give way to walkers and horse-riders on bridleways.
- Co-operate with people at work in the countryside. For example, keep out of the way when farm animals are being gathered or moved and follow directions from the farmer.
- Busy traffic on small country roads can be unpleasant and dangerous to local people, visitors and wildlife – so slow down and where possible, leave your vehicle at home, consider sharing lifts and use alternatives such as public transport or cycling. For public transport information, phone Traveline on 0871 200 22 33 or visit www.traveline.info.

Leave gates and property as you find them and follow paths unless wider access is available

- A farmer will normally close gates to keep farm animals in, but may sometimes leave them open so the animals can reach food and water. Leave gates as you find them or follow instructions on signs. When in a group, make sure the last person knows how to leave the gates.
- Follow paths unless wider access is available, such as on open country or registered common land (known as 'Open Access land').
- If you think a sign is illegal or misleading such as a 'Private - No Entry' sign on a public path, contact the local authority.
- Leave machinery and farm animals alone – don't interfere with animals even if you think they're in distress. Try to alert the farmer instead.
- Use gates, stiles or gaps in field boundaries if you can – climbing over walls, hedges and fences can damage them and increase the risk of farm animals escaping.
- Our heritage matters to all of us – be careful not to disturb ruins and historic sites.

Protect the natural environment

We all have a responsibility to protect the countryside now and for future generations, so make sure you don't harm animals, birds, plants or trees and try to leave no trace of your visit. When out with your dog make sure it is not a danger or nuisance to farm animals, horses, wildlife or other people.

Leave no trace of your visit and take your litter home

- Protecting the natural environment means taking special care not to damage, destroy or remove features such as rocks, plants and trees. They provide homes and food for wildlife, and add to everybody's enjoyment of the countryside.
- Litter and leftover food doesn't just spoil the beauty of the countryside, it can be dangerous to wildlife and farm animals – so take your litter home with you. Dropping litter and dumping rubbish are criminal offences.
- Fires can be as devastating to wildlife and habitats as they are to people and property – so be careful with naked flames and cigarettes at any time of the year. Sometimes, controlled fires are used to manage vegetation, particularly on heaths and moors between 1st October and 15th April, but if a fire appears to be unattended then report it by calling 999.

Keep dogs under effective control

- When you take your dog into the outdoors, always ensure it does not disturb wildlife, farm animals, horses or other people by keeping it under **effective control**. This means that you:
 - keep your dog on a lead, or
 - keep it in sight at all times, be aware of what it's doing and be confident it will return to you promptly on command
 - ensure it does not stray off the path or area where you have a right of access
- Special dog rules may apply in particular situations, so always look out for local signs – for example:
 - Dogs may be banned from certain areas that people use, or there may be restrictions, byelaws or control orders limiting where they can go.
 - The access rights that normally apply to open country and registered common land (known as 'Open Access' land) require dogs to be kept on a short lead between 1 March and 31 July, to help protect ground nesting birds, and all year round near farm animals.
 - At the coast, there may also be some local restrictions to require dogs to be kept on a short lead during the bird breeding season, and to prevent disturbance to flocks of resting and feeding birds during other times of year.
- It's always good practice (and a legal requirement on 'Open Access' land) to keep your dog on a lead around farm animals and horses, for your own safety and for the welfare of the animals. A farmer may shoot a dog which is attacking or chasing farm animals without being liable to compensate the dog's owner.
- However, if cattle or horses chase you and your dog, it is safer to let your dog off the lead – don't risk getting hurt by trying to protect it. Your dog will be much safer if you let it run away from a farm animal in these circumstances and so will you.
- Everyone knows how unpleasant dog mess is and it can cause infections, so always clean up after your dog and get rid of the mess responsibly – 'bag it and bin it'. Make sure your dog is wormed regularly to protect it, other animals and people.



The Countryside Code



Enjoy the outdoors

Even when going out locally, it's best to get the latest information about where and when you can go. For example, your rights to go onto some areas of Open Access land and coastal land may be restricted in particular places at particular times. Find out as much as you can about where you are going, plan ahead and follow advice and local signs.



Plan ahead and be prepared

- You'll get more from your visit if you refer to up-to-date maps or guidebooks and websites before you go. Visit www.gov.uk/natural-england or contact local information centres or libraries for a list of outdoor recreation groups offering advice on specialist activities.
- You're responsible for your own safety and for others in your care – especially children – so be prepared for natural hazards, changes in weather and other events. Wild animals, farm animals and horses can behave unpredictably if you get too close, especially if they're with their young – so give them plenty of space.
- Check weather forecasts before you leave. Conditions can change rapidly especially on mountains and along the coast, so don't be afraid to turn back. When visiting the coast check for tide times at www.ukho.gov.uk/easytide, don't risk getting cut off by rising tides and take care on slippery rocks and sea-weed.
- Part of the appeal of the countryside is that you can get away from it all. You may not see anyone for hours, and there are many places without clear mobile phone signals, so let someone else know where you're going and when you expect to return.

Follow advice and local signs

England has about 190,000 km (118,000 miles) of public rights of way, providing many opportunities to enjoy the natural environment. Get to know the signs and symbols used in the countryside to show paths and open countryside.

Some of the symbols you may see

-  **Footpath** – open to walkers only, waymarked with a yellow arrow.
-  **Bridleway** – open to walkers, horse-riders and cyclists, waymarked with a blue arrow.
-  **Restricted byway** – open to walkers, cyclists, horse-riders and horse-drawn vehicles, waymarked with a plum coloured arrow.
-  **Byway Open to All Traffic (BOAT)** – open to walkers, cyclists, horse-riders, horse-drawn vehicles and motor vehicles, waymarked with a red arrow.
-  **National Trail Acorn** – identifies 15 long distance routes in England and Wales and the England Coast Path. All are open for walking and some trails are also suitable for cyclists, horse-riders and people with limited mobility. Check the National Trail website at www.nationaltrail.co.uk for information including maps, trip planning tools and trail diversions.
-  **Open Access land** – 865,000 hectares of mountain, moorland, heathland, down land and registered common land (mapped under the Countryside and Rights of Way Act 2000) is available to people to walk, run, explore, climb and watch wildlife, without having to stay on paths. Similar rights are being extended in stages on coastal land in England (identified under the Marine and Coastal Access Act 2009). Check the Open Access web pages at www.openaccess.naturalengland.org.uk/wps/portal/oasys/maps/MapSearch for maps, information and any current restrictions in place.
-  A 'negative' access symbol – may be used to mark the end of area-wide access although other access rights may exist, for example public rights of way.