

The South Downs National Park: A very special place

The beautiful environment of the South Downs has recently been given the highest possible level of protection by becoming the UK's newest National Park.

National Parks are specially protected areas that have two main purposes:

- conserving and enhancing the natural beauty, wildlife and cultural heritage
- promoting opportunities for the understanding and enjoyment of their special qualities

The National Park Authority is the organisation that looks after the National Park. It works with others to meet the National Park purposes as well as having a duty to foster the economic and social well-being of the local communities in the Park.

The South Downs is the newest member of the national park family, being designated on 31st March 2010. It stretches an impressive 160km from the edge of Winchester to the white cliffs of Beachy Head, and is famous for rolling chalk uplands, river valleys and woodland. The South Downs have been given national park status because of their spectacular landscape, wildlife, heritage and natural beauty. An estimated 39 million visits are made to the area every year and 108,000 people live within its boundary making it the most populated and visited of all the national parks.

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The aims of this pack are:

- to increase pupils' knowledge and understanding of the South Downs National Park
- to develop pupils' map skills
- to broaden pupils' understanding of landscapes and geology
- to enable pupils' to explore the variety of the habitats found in the South Downs National Park.

Pack contents

This pack contains:

- four lesson plans, with extension ideas and teacher information
- seven pupil activity sheets
- a photoset of ten key images
- a CD with:
 - PowerPoint 1: the designation of the South Downs National Park for use in a school assembly
 - the South Downs National Park logo
 - electronic versions of the ten key images plus some additional images
 - electronic versions of the lesson plans and activity sheets
 - PowerPoint 2: Habitats in the South Downs National Park
- a 'Caring for the South Downs National Park' leaflet
- a South Downs National Park fact sheet
- links to the national curriculum
- an Ordnance Survey map of the SDNP (scale 1: 00000) (A larger laminated version of this map is available to buy from www.southdowns.gov.uk)

The pack contains four lesson plans for use with pupils in years 6 and 7. The lessons are all fully resourced but teachers can select and adapt the activities and resources to meet the needs of their pupils. The pack also includes a PowerPoint to be used in school assemblies explaining how the South Downs came to be designated as a National Park.

Further information

For more information about the South Downs National Park, go to www.southdowns.gov.uk.

For more information about National Parks, go to www.nationalparks.gov.uk

The Field Studies Council's field guide *Features of the South Downs Way* is a useful source of information for teachers and pupils go to www.southdowns.gov.uk for more details.

Curriculum links

We hope this pack will help your pupils to develop their sense of place, as they explore and investigate the South Downs National Park. They will gather knowledge, learn new skills and share their experiences. The materials are closely linked to the KS3 programme of study for geography so that pupils gain a strong grasp of key concepts, develop a range of skills and improve their local knowledge through a series of engaging and challenging activities. The activities also link to a range of other subjects including literacy, art, history, citizenship and PHSE.

Key concepts

The key concepts covered in these lessons are:

Place

- Understanding the physical and human characteristics of real places
- Developing 'geographical imaginations'

Space

- Knowing where places and landscapes are located, why they are there, the patterns and distributions they create, how and why these are changing and the implications for people

Scale

- Appreciating different scales – from personal and local to national
- Making links between scales to develop understanding of geographical ideas

Human and physical processes

- Understanding how sequences of events and activities in the physical and human worlds lead to change in places, landscapes and societies

Environmental interaction and sustainable development

- Understanding that the physical and human dimensions of the environment are interrelated and together influence environmental change
- Exploring sustainable development and its impact on environmental interaction and climate change

Key processes

The lessons and activities in this pack cover a number of essential skills and processes in geography, including enquiry, graphicacy and visual literacy and geographical communication.

Range and content

Pupils are encouraged to cover a range of content from personal, local, regional and national. They cover the location of places and environments in the South Downs National Park, including its changing human and physical geography.

Learning outcomes

Geography

Pupils will develop spatial awareness as they increase their knowledge and understanding relating to places and explore geographical questions such as 'Where is this place?' and 'What is it like?' They will also develop geographical vocabulary and use this in making observations about, describing and comparing places.

English and literacy

There are opportunities to make links to fiction and non-fiction texts, e.g. explanatory texts (what this place is like and why), persuasive texts (why you must come here). There are also links to speaking and listening, e.g. in justifying their opinions, and listening to others' questions or ideas.

Past, present and the future

There are opportunities for pupils to think about history, such as 'Why has this place developed in this way?', and the future (imagining possible changes).

Lesson 1:

Exploring with photographs

Lesson aim

To increase knowledge and understanding of the South Downs National Park by exploring photographs.

Key question

Why is the South Downs area so special that it has been designated a National Park?

Learning objectives

- To identify and explore the variety of landscapes in the South Downs National Park through images.
- To share different feelings and perceptions of places.
- To develop geographical vocabulary.

Resources

- South Downs Ordnance Survey wall map
- Set of ten key images (one per group)
- South Downs National Park logo
- Activity sheet 1: What do you think?
- South Downs National Park fact sheet

Stimulus

This lesson should follow on from **PowerPoint 1** which informs pupils about why the South Downs area has been given National Park status and has been designed for use in a school assembly. Teachers may find the **South Downs National Park fact sheet** useful in this lesson.

Start by reading aloud this short piece written by Mike Tristram, the Managing Trustee for Sompting Estate, near Worthing, describing the South Downs. Pupils close their eyes and listen, trying to create a mental image of the landscapes being described.

Look across under a storm cloud to wind-whipped 'majestic mountains', then as the light shifts, see the same landscape as homely gentle hills and sheltered valleys. Look down to tiny flowers that live with the sheep and the winds, then look up to vast skyscapes. Listen to the cattle, sheep and ploughing tractor below – and to the lark above. Look either north to the blue plain of the Weald, or south to the blue sea. Walk out of the woods along a sheep- and cattle-track to smell

the gorse on a summer day; it may be momentarily still but you can see the bushes' shape telling you where the strong west wind comes from; then, walk on through a field of spring barley which will feed the livestock in winter, or brew good beer for your later enjoyment ... You can see and feel that you're in a special and important space between earth and sky.

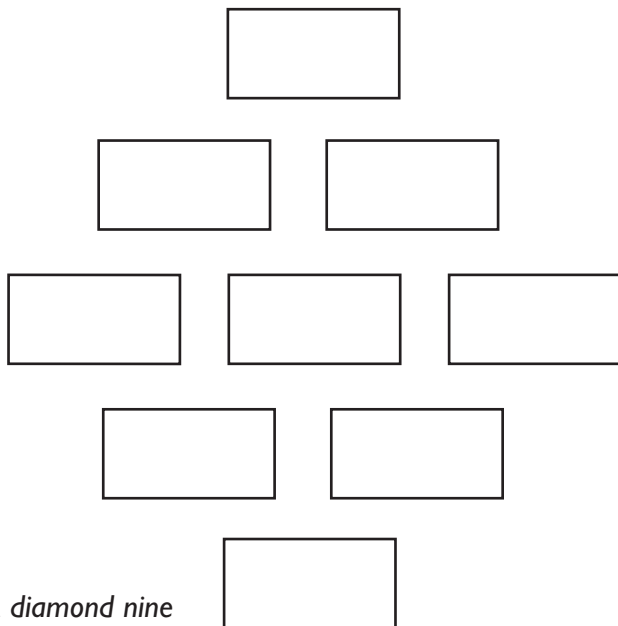
Give pupils three minutes to either write or draw (in silence) what they can remember from the reading and to think about what place is being described. Ask the pupils to share their thoughts in a pair and then in a four.

Can they guess where it is? Reveal the South Downs National Park logo on the white board and ask pupils what they know about the South Downs and the National Park. Have they visited places in the South Downs National Park? Can they name any places in the South Downs National Park? Do they think this was a good description of it? What words would they use to describe it?

Main activities

Sorting images

Give each table or group a set of the ten key images and ask pupils to complete a 'diamond nine' exercise, placing the photo they like the best at the top and the one they like the least at bottom. As there are ten images in the set, they must first discard one photo completely. When all groups have a complete diamond, discuss how they decided which was the 'best' photograph. Was it easy to do? Did they all agree? Ask pupils to visit other tables or groups to see if they had the same order. Is there a 'winning' image that most groups put at the top or in their top three? Does anyone recognise any of the places in the photos?



Geographical descriptions

In pairs, pupils consider one or two photos of the South Downs National Park (a selection are available on the CD or you could use your own/some sourced from the internet. Ensure that the print-offs have enough space around the image for pupils to make notes.) Pupils should label their image(s) using as many geographical words as possible. If necessary, give some examples first. They could also add other

adjectives, such as quiet, lonely, busy, wild, beautiful, attractive, boring, desolate.

Geographical words

Describing the physical environment:
landscape, relief, hill, upland, lowland, downland, steep slope, gentle slope, flat land, valley, river channel, meandering, grassland, wooded, meadow, farm land, arable, wildlife, footpath, viewpoint, sheltered, exposed.

Describing the human environment:
urban, rural, ancient, modern, building materials (stone, brick), isolated buildings, house, barns, village, market town, castle.

Using all the words they listed around their image, pupils write a detailed description of their image. Challenge them to make their descriptions as interesting as the one they heard at the start of the lesson. Would someone be able to imagine the place in their photo just from hearing the description?

Each image from the CD has a grid reference. When the pupils have completed their description, they should find their image's location on the large OS map of the South Downs National Park. Stick the image around the map and then secure a piece of string to its precise location.

Pupils read their descriptions to the rest of the class, who assess them using **Activity sheet 1**, completing columns 1 to 5. They may also like to record their description as a podcast or a video. What extra information would have made the descriptions better? Did those pupils who had visited the place in their image give a better description?

One of the characteristics of the South Downs National Park is the variety of landscapes. The South Downs National Park will be producing

many leaflets to promote the area to visitors. Pupils need to complete column six on **Activity sheet 1** and come up with six images that are representative of the area, they must reflect the variety of landscapes. Remind pupils about the images they liked best in the diamond ranking exercise at the start of the lesson. As a class see what images were most popular.

Plenary

Display the South Downs National Park logo again. Thinking about the images they have seen and described, do pupils think it is a good logo for the National Park? What does it show? What doesn't it show?

In preparation for the next lesson, find out which places in the South Downs National Park pupils would want to visit using the responses to **Activity sheet 1**.

Further teaching ideas

1. Working in a pair, one pupil describes what they can see in a photo of the South Downs National Park while the other draws what they think it looks like. The better the description, the more accurate the drawing should be!
2. Pupils look for similarities and differences in two or more images of the South Downs National Park.
3. Pupils study a photograph for 30 seconds. They then turn it over and write down everything they can remember.
4. From the ten key images, pupils select those they think are most similar and the most different and explain their choice.
5. Pupils select an image and describe how they think the place might look in the future. What changes might there be? How could the place be improved or spoiled?
6. Pupils design and produce a promotional leaflet for the South Downs National Park using the photos they selected on **Activity sheet 1**. They may also like to design their own logo to represent the Park.
7. Launch a photo competition for pupils, parents and staff. They should enter an image that they think best reflects the South Downs National Park and give reasons for their choice.

Lesson 2:

Walk this way

Lesson aim

To develop map skills by planning a walk in the South Downs National Park using an Ordnance Survey map.

Key question

What can I see and experience on a walk in the South Downs National Park?

Learning objectives

- To consolidate and develop basic map skills.
- To explore a small area of the South Downs National Park in detail.

Resources

- South Downs Ordnance Survey wall map
- Photoset of ten key images (one set per pair)
- Activity sheet 2: Mastering my map
- Activity sheet 3: Walk this way
- Pieces of string (one for each group)
- *Map Reading Made Easy Peasy* leaflet (downloaded from www.ordnancesurvey.co.uk/oswebsite/education/pdf/mapreadingmadeeasypeasy2.pdf)
- Ordnance Survey 1:25,000 scale map extract (one per group). See panel for more information.
- Caring for the South Downs National Park leaflet

Ordnance Survey maps

You may have received your local OS maps through the free 'Ordnance Survey Maps for 11 year olds' scheme. If not, there are several ways to access Ordnance Survey mapping:

Digimap for Schools is an online service providing up-to-date Ordnance Survey maps. You can use these maps in the classroom, for homework or for school projects. There are many maps available, each at a variety of scales. You will need your school login details to get started. Go to <http://digimapforschools.edina.ac.uk/login.html>

Get-a-map has small-scale maps (up to 1:25 000 scale) of anywhere in the UK. Simply enter the place name, postcode or National Grid reference. Go to <http://getamap.ordnancesurvey.co.uk/getamap/frames.htm>

Open Data

(www.ordnancesurvey.co.uk/oswebsite/opendata/viewer) has 1:25,000 equivalent scale of data, and is free for schools. This involves copying and pasting the map section into a Word document [?]. **For John to complete**

Schools can also photocopy maps from their Local Authority at A4 size.

Stimulus

Using the South Downs Ordnance Survey wall map and the information gathered in last lesson, remind students of the places they decided they wanted to visit. You may like to explore these places using Google Earth.

Main activities

In groups, pupils plan a walk in the South Downs National Park using an Ordnance Survey map

extract. You may like to give each group a different extract reflecting the variety of places/landscapes or all groups could use the same extract. If necessary, familiarise pupils with basic Ordnance Survey map reading skills using the leaflet *Map Reading Made Easy Peasy* or **Activity sheet 2**.

To plan their walk, pupils need to find suitable starting and finishing points, think about the sort of places/landscapes they would like to see, consider if they will need facilities such as cafés

and toilets, and calculate how long the walk might take. Most people walk at a speed of 3km per hour, so it will take two minutes to walk 100m and 20 minutes to walk 1km (one grid square). This is only if they are walking in a straight line and on flat ground though! If there is a hill they need to add an extra minute for every 10 minutes when they are going uphill.

Pupils should also think about accessibility and risk. Are there any parts of the walk that might be dangerous (e.g. close to cliffs)? How could they make this safer? Would people with pushchairs or wheelchairs be able to complete the walk? They could also think about sensory aspects of the walk and if it includes different sounds, smells and maybe even tastes.

Pupils fill in **Activity sheet 3** while planning, then choose how to present their walk, e.g. as a magazine article, a PowerPoint presentation, a story, or an annotated drawing. Alternatively, pupils could present their walks to the rest of the class, or electronic versions could be uploaded to a blog or school learning platform.

Plenary

Discuss environmental damage. What must pupils think about when walking in countryside such as the South Downs?

The South Downs national Park has developed a countryside code of tips to help visitors to protect and enjoy the national park. The *Caring for the South Downs National Park* leaflet can be found in this pack.

The pupils could come up with their own 'Tips to help you protect and enjoy your national park' and compare it to the official one. There are six tips in the South Downs leaflet;

Be Safe – Please plan ahead and follow any signs

Please leave gates and property as you find them

Please protect plants and animals.

Please take your litter home

Please keep dogs under close control

Please consider other people

Further teaching ideas

1. Lots of websites have pre-planned walks for people to try. How do these compare with the pupils' walks and what information do they give?
www.walkingbritain.co.uk/walks/walks/walk_list/South_Downs_Way and www.visitsouthdowns.com/irte.asp?id=27 are just two examples.
2. Pupils try drawing their routes electronically using Quikmaps (www.quikmaps.com)
3. To find out more about maps from the Ordnance Survey, go to <http://mapzone.ordnancesurvey.co.uk/mapzone/index.html>
4. The Geograph British Isles project aims to collect a photograph for every square kilometre of the British Isles. Many images have already been uploaded but it's not too late to take part. Go to <http://schools.geograph.org.uk>. Pupils could take photos and try out their walks at the same time!

Lesson 3:

Investigating the Landscape

Lesson aim

To understand how landscapes in the South Downs National Park have been shaped by rocks and rivers.

Key question

How do the rocks beneath our feet shape the South Downs National Park?

Learning objectives

- To understand how the three main rock types found the South Downs were formed.
- To understand the processes that created the landscapes of the South Downs National Park.
- To be able to relate rock type to the shape of the land.

Resources

- South Downs Ordnance Survey wall map
- Photoset of ten key images
- Geology map
- Sample of chalk, greensand and weald clay
- Activity sheet 4: Landscape detectives
- Activity sheet 5: Shaping the South Downs National Park
- Activity sheet 6: Time travelling in the South Downs National Park

Stimulus

Explain to pupils that they are going to be landscape detectives. If necessary, discuss with them what detectives do and what landscape detectives might be looking for. They will be examining a range of evidence to answer the key question: How do the rocks beneath our feet shape the South Downs National Park?

To gather some background information pupils can complete **Activity sheet 4** using the photoset, geology map and large OS wall map. It would also be useful for pupils to have samples of the three types of rock found in South Downs National Park.

Main activities

Pupils are given the cards from **Activity sheet 5** and asked to sort them into chronological order. Teachers can familiarise themselves with the geology of the area by reading the teacher notes.

Pupils summarise their findings using **Activity sheet 6**, and explain what is happening in the three diagrams. They could pretend to be time-travelling geologists reporting back from the periods when the main rocks were being formed and changed, using the activity sheet as a storyboard. This could be presented to the rest of the class live or on video.

Plenary

Use different coloured sticky notes to represent the three different types of rock found in the South Downs National Park. Ask pupils to stick the notes on to the Ordnance Survey wall map in the correct areas. They can use the photographic evidence but they should be able to identify the high chalk downs, the low clay weald and the higher greensand.

Pupils could annotate the geology base map with information about the three rocks.

Further teaching ideas

1. Discuss quarries and different limestone rocks including chalk. Disused chalk quarries are prominent features within the downland slopes and have been utilised as landfill sites. In the storybook *Stig of the Dump* (Clive King, 1963), Stig lives in a chalk pit. The scheme of work on the GA website will give you some ideas of how to use the book to develop pupils' thinking: www.geography.org.uk/download/GA_PRHbkExt811Grid.pdf
2. Make a contour map using cardboard. Pupils should colour or paint the geological layers. In this way it is easy to see the rocks and relief together.
3. Set pupils a rock cake challenge for homework. They need to make a layer cake that shows the different rocks in the South Downs.
4. Demonstrate river erosion using guttering or a slide. Pupils put material of different sizes, such as sand and gravel, into the channel, then water is poured down the slope. Adjust the slope angle to show how the water can move different materials depending on how quickly the water is flowing.
5. Use the British Geological Survey (BSG) website to find out more about geology. The Make A Map tool enables pupils to turn the layers showing the rock types on and off, and answer questions about the rocks around the South Downs area. Go to www.bgs.ac.uk/education/makeamap/flashfile/makeamap.html. To explore the geology of the South Downs in more detail use the geology of Britain Viewer: <http://maps.bgs.ac.uk/geologyviewer>. There is a geology map that can be downloaded from their website www.bgs.ac.uk/education/climate_change/climate_through_time.html

The geology of the South Downs National Park

The South Downs National Park offers some of the most spectacular landscapes in the south of England, with wide chalk downs, steep scarp slopes, rugged sandstone uplands and clay vales (wide flat valleys). Pupils will probably have little knowledge of the rocks underneath the different landscapes. The key to understanding the shape of this landscape and the differing ecology is the area's underlying geology and the work of rivers.

The SDNP contains three types of rock: chalk, clay and sandstone. These were all formed during the Cretaceous period from (165–65 million years ago). The softer clay forms the lower lying Weald in the north, the harder sandstone forms the hills in the north, and the chalk forms the Downs themselves.

The oldest rocks were formed 125 million years ago when the south of England was covered with a large freshwater lake. Rivers flowing into the lake carried vast amounts of clay or mud, which built up on the lake bed. This eventually formed the Weald Clay which today extends across north-east Sussex and forms the low lying areas. It is covered in woodlands, fields, streams and hedges. Dairy and arable farming are found here.

Over millions of years, as the land sank and the sea covered the area, coarser sand deposits were laid down, forming the sandstone known as Lower Greensand (110 million years ago). As the sea gradually deepened and the currents became weaker, clay particles settled and formed a thick dark mud known as Gault Clay. When the sea conditions changed again, strong underwater currents coarser sandy sediments were deposited once more, forming the sandstone known as Upper Greensand.

Today the sandstones are found underneath the extensive areas of heathland in the north of the National Park such as Iping Common, Duncton Common and Woolbeding Common. Sandstone

typically produces acidic soils. Hazel woods that had originally covered the area were cleared for farming during the prehistoric period and the soils quickly lost what little goodness they had, leading to the creation of heath land.

Ninety-seven million years ago the sea became shallow and tropical, with microscopic sea creatures. Chalk was formed as the skeletons of these creatures were deposited on the seabed, squeezed by overlying sediment and eventually fossilised. This process continued for 20 million years creating a layer of chalk over 300m thick. The chalk also contains flint (formed from the silica of sea sponges), which is the only hard rock to be found on the Downs. It is found in narrow, dark grey bands.

Twenty million years ago the African and European tectonic plates collided, creating mountain ranges such as the Himalayas and the Alps. The rocks of south-east England were also pushed up by this collision to form a huge dome about 200km (125 miles) long and 80km (50 miles) wide.

Over the millions of years since then, the chalk at the top of the dome has been worn away by rivers to form the Downs, and the older sandstone and clay rocks of the Weald have become exposed.

In the east of the South Downs National Park in Sussex, much of the chalk has been cut into separate blocks by the work of rivers such as the Arun, Adur, Ouse and Cuckmere, which flow from the low weald in the north to the English Channel. The rivers now meander through flat valley bottoms with wet meadow pastures and are surrounded by steep-sided slopes with minor cliffs.

Chalk produces fertile, neutral soils. Because of this, it is in the chalk areas of the SDNP that there is evidence of early human settlements.

For more information about the geology of the South Downs go to www.southdownsonline.org/learning

Lesson 4:

Habitats in the South Downs National Park?

Lesson aim

To explore the variety of the habitats in the South Downs National Park.

Key question

Why are there so many different habitats in the South Downs National Park?

Learning objectives

- To know about the variety of habitats in the South Downs National Park?
- To understand the relationships between habitats and factors such as soil, rock and vegetation.

Resources

- South Downs Ordnance Survey wall map
- Photoset of ten key images (one per pair)
- South Downs National Park logo
- South Downs National Park fact sheet
- PowerPoint 2: Habitats in the South Downs National Park
- Activity sheet 7: Knowledge cards
- Large sheets of paper

Stimulus

In pairs, pupils sort the ten key images into two groups: those showing natural landscapes and those showing landscapes which people changed. Share findings as a class. Reveal that *all* the landscapes have been changed by people, even the woods and downs, but that as this has taken place over thousands of years, it can be difficult for us to recognise the changes.

Explain that each landscape type has its own distinct habitat, and that these are home to a range of different species of plants and animals.

Main teaching activities

Mind mapping

In groups, pupils create a mind map to show the variety of habitats and landscapes in the South Downs National Park. They should start by sticking the South Downs National Park logo in the middle of a large piece of paper.

Ask pupils to think of habitats in the South Downs National Park and note them around the logo. The six main habitats are chalk downland, heathland,

woodland, wetland, coastal and arable.

The information pupils need to complete the mind map can be found on **Activity sheet 7** (a more detailed version of the cards is on the CD – use the one that best matches the level of your pupils) and there is guidance on how to create a mind map on the PowerPoint. Each card should help pupils generate a new branch of their mind map. They could also add photos in the appropriate places if these are available. The final result should be a large map showing variety of the habitats in the South Downs National Park from the past to the present.

Display the mind maps and discuss what the groups have found out about the South Downs National Park. Is there anything they would have liked to find out more about?

Plenary

Students have to address the original key question for these lessons – ‘Why is the South Downs National Park a special place?’ – using all the information they have gathered over the previous lessons.

Lesson 4:

Habitats in the South Downs National Park?

There are a number of ways in which this could be carried out:

1. Pupils could prepare a PowerPoint about the South Downs National Park to present to another class, a parents meeting or in a school assembly. It should have five slides with no more than 15 words on each.
2. 'If You're Not From the Prairie' by David Bouchard is a short and beautifully illustrated poem which captures the essence of place. Watch the video at www.youtube.com/watch?v=EMC6BA8RRlg then ask pupils to write their own poem entitled 'If you're not from the South Downs'.
3. The 'My Places' area of the Worldwise website allows pupils to upload text and images of their special places, read about others people's special places and vote for the best entries. Pupils could write about their favourite place in the South Downs and upload it. Go to <http://worldwise.geography.org.uk/myplaces>
4. Many artists have been inspired by the landscapes of the South Downs. Go to www.southdownsonline.org/learning/rte.asp?id=169 and use the examples to help inspire pupils to paint, draw or sculpt pieces of their own. You could also invite artists, writers or others creative people in to talk to the pupils about how the South Downs inspires them.