

What's so special about the **HABITATS** of Brighton & Hove?



This teaching resource has been developed by BHee to support both primary and secondary science and geography teachers teach about the habitats of Brighton & Hove and raise awareness of the Biosphere bid. It is hoped that this will also make pupils aware of the unique location they live in and give a better understanding of what makes their city so special.

Key concepts

- Brighton & Hove is situated in a special location – between the Downs and the sea.
- The 3 main habitats within the city (chalk grassland, urban and marine) are important for the city's wildlife and people
- These habitats need our protection
- The Biosphere project is a way of recognising how important these habitats are and protecting them for the future

The presentation will cover the **National Curriculum** targets outlined below.

KS1

- similarities and differences between local environments and how this affects plants and animals living there **(Sc2 5b)**
- identify and describe what places are like **(G3a)**

KS2

- different plants + animals are found in different habitats **(Sc2 5d)**
- living things and the environment need our protection **(Sc2 5a)**
- identify and describe what places are like **(G3a)**
- knowledge and understanding of environmental change and sustainable development **(G5a+b)**

KS3

- living things are interdependent , interacting with each other and their environment **(3.3d)**
- human activity and natural processes can lead to changes in the environment **(3.3c)**

Teaching notes will provide the background knowledge teachers need to present the material. The heading in bold next to the slide number indicates the main theme or teaching point for the slide.

Many of the slides contain multiple pictures. This is indicated by a star on the left of the slide when using the slide sorter and a star next to the slide number on the teachers' notes. Most images will require the teacher to click to change to the next image. [Text in blue gives extra information on the format of the presentation.](#)

You are strongly advised to look at the presentation before showing to students. It is envisaged that teachers may edit both the presentation and the information to suit the level of their students.

Although this presentation mentions briefly some of the species found in the city, more detailed information may be found in the presentation 'What's so special about the SPECIES of Brighton & Hove?' This is also free to download from the BHee website.

Slide 1 - What is so special about the HABITATS of Brighton & Hove?

What is a habitat?

A habitat is a place where a plant or animal lives.

Different animals and plants are found in different habitats

***Slide 2 – Different species are found in different habitats**

Look at the shapes. Can you match the shape with the hole? Each shape will only fit in the right hole.

Imagine the shapes are different species (types) of animals and plants. Their habitats are the holes. Species cannot live anywhere – each species needs the right kind of habitat. Different species have adapted (changed over a long time) to the conditions of the habitats in which they live.

[Clicking on the slide once will show a text to reinforce this message and the shapes moving towards their matching hole.](#)

To keep habitats in the best possible condition they need to be cared for. If the habitats are scarce, then so are many plants and animals that live there. To increase the number of a species, we first need to ensure there is sufficient habitat for it to live.

***Slide 3 – What habitats can the children name within the city?**

Slide shows view of Brighton & Hove. What habitats can they see in the picture? Can they name any other habitats within the city?

***Slides 4-10** show images of different habitats found within the city.

Do they know what habitat is represented in the picture?

[Click on the image for the name of the habitat to appear.](#)

Students may come up with other names for these habitats.

Slide 11 – Where is their school in relation to local habitats?

The map shows the city of Brighton & Hove.

Can they locate their school? Use the yellow lines (the A23 and A27) and railway line and stations to help. Orange dots represent schools.

Many of the habitats they have already named can be linked together to form larger habitats eg 'urban' habitats may include gardens, parks, street verges etc.

Can they name the different large habitats on the map shown by the green area (downland), the purple area (city/urban) and the blue area (marine)?

[Click on the slide for the names of the habitats to appear in the above order](#)

Which habitats are near their school?

The following slides will look in more detail at these 3 habitats. It will consider some of the important species that live there and why and how people need to manage these habitats carefully.

Slide 12 –What does downland look like?

The South Downs are made from chalk. This chalk was formed between 100 and 60 million years ago from the remains of tiny marine organisms called plankton that lived in the seas around Britain.

The plant species that grow on the South Downs make it one of the richest and rarest habitats in Western Europe – chalk grassland. In Sussex we have one of the major chalk grassland areas in the UK (about 300 hectares around Brighton & Hove).

Note the number of wildflowers on the slide. Chalk grassland can support over 50 species of flowering plant per square metre, including a number of nationally scarce species. This is more species per square metre than you find in the Amazon rainforest.

What species do you find on chalk grassland?

Slide 13 -16 – Downland plants

Ox eye daisy, small scabious, kidney vetch, pyramidal orchid.

These flowers are an important nectar sources for many downland insects.

Slide 17-19 – Downland butterflies

Common blue, Adonis blue, small blue

Chalk grassland is an important habitat for butterflies. These ones can be near our city. Note that the Small blue isn't blue at all!

***Slide 20 – Downland birds**

[Sky-lark will automatically zoom into view](#)

Sky-larks are often seen or heard on the Downs in April, May and June. They like this particular habitat as they are ground nesting birds (and feed from the insects attracted to the downland flowers)

***Slide 21 – What are the threats to chalk grassland?**

How can we protect it?

Slide shows picture of downland. How are the two sides different?

On one side the ground has been left undisturbed. The other side shows downland that has been intensively farmed (arable fields).

Which one is the best for wildlife?

[Click on the picture for the names of each field to come up, and a tick or cross to indicate if it's good for wildlife.](#)

Threats to chalk grassland include intensive farming, use of fertiliser, ploughing and human activity eg trampling

Using sheep to graze the downland helps stop the coarse grasses and scrub growing all over the habitat, resulting in a decline in the amount of biodiversity (types of wildlife).

The South Downs (which run from Winchester to Eastbourne) has recently been designated as a National Park. This will also help protect it.

Slide 22 – Urban wildlife

This is a map of Brighton & Hove. The green 'blobs' represent green space within the city – i.e. parks, nature reserves, school grounds.

Can pupils locate their school?

What greenspaces can they identify near their school?

These greenspaces are all important in forming a '**green network**' or '**green corridors**' – linking different habitats and providing a way that wildlife can move around the city, ensuring it reaches the best nesting sites and food sources.

What animals and other wildlife do the children think live in their city?

***Slide 23 – What animal species are commonly found in urban B&H?**

Foxes [click to activate 2nd picture](#)

Foxes can be found all over the city. They frequently live along the railway tracks and forage in gardens for food at night.

Slide 24 – What bird species are commonly found in B&H’s urban habitat?

Herring gulls are generally coastal birds, nesting in rocky cliffs. However they have learned to live in the city. They can nest on buildings and often scavenge their food from rubbish bins. The number of gulls has dropped by 69% in the last 40 years. This may be due to better storage of our rubbish, denying gulls access to it.

***Slide 25 – What bird species are commonly found in B&H’s urban habitat? [Click to get picture of starlings around pier](#)**

Starlings will use a wide variety of habitats, but often prefer urban habitats, where they use artificial structures e.g. electricity pylons for roosting and buildings for nesting.

The starling is largely insectivorous, however it has adapted to life in the city by eating grains, fruit and even food waste. Noisy groups of starlings can chase off other birds when feeding in gardens. There has been a sharp drop in Starling numbers (especially young birds) over the last 20 years. This may be due to a reduction in their invertebrate prey e.g. earthworms, leatherjackets, due to increased use of pesticides by farmers and gardeners.

In the winter Starlings gather in to sometimes very large roosts. They tend to be loyal to these for many years. As the day ends the starlings return to the roost, forming the large, distinctive swirling flocks (murmurations). Starlings can be found roosting on both piers and at the Marina.

Slide 26 – What important plant species are commonly found in B&H’s urban habitat?

B&H holds the national **elm** collection. The council has worked hard to protect the cities trees from a devastating fungal infection spread by beetles called Dutch Elm Disease. The oldest English elm trees in perhaps the world (the Preston Twins) can be found in Preston Park.

Slide 27 – What can we do to protect and encourage urban wildlife?

The council is trying to improve the urban habitat by **planting wildflowers** along roadsides and in parks to encourage more nectar feeding insects into the city, grazing greenspaces in the city to encourage more species to grow, and putting in other features e.g. butterfly banks.

Slide 28-31 – What can YOU do to encourage wildlife into your school or garden?

Slides shows 4 species that can often be seen in parks and gardens (red admiral, ladybird, bee and gold crests). These can be encouraged into the city by planting wildflowers.

Other things you can do to encourage wildlife into your school or garden include:

- planting native species that attract butterflies, bats, bees etc.
- creating habitat piles
- putting up birdboxes
- digging a pond
- letting the grass grow longer around the edge of your garden / grounds.

For planting lists look on www.sussexwildlifetrust.org.uk/

For more advice on developing school grounds for wildlife contact Katie at katieeberstein@sussexwt.org.uk

Slide 32 – The Marine Environment

There are lots of habitats associated with the marine environment.

This slide shows **vegetated shingle** – plants growing on the pebbles. [Click to activate 2nd image.](#) This is a very rare and important habitat. The plants (sea kale and yellow horn poppy) are specially adapted to conserve water and prevent damage by salt spray and wind.

Slide 33 – White chalk cliff faces and Inter-tidal rockpools

The chalk cliffs provide important nesting sites for birds such as rock pipit and kittiwake as well as rare species of beetle, fly and spider.

The rockpools are home to a variety of invertebrates and algae such as limpets, anemones and crabs.

Slide 34-38 – Under water habitats

These pictures are not from some coral reef. They are all different habitats found under the sea in Sussex. They are important habitats to colonies of seahorses, cuttlefish and black bream and important feeding grounds for many crustacean and fish.

Slides show;

- Eel grass beds – seahorses can live here
- Sandy bottom – suitable for sand eels to live
- Reef – suitable for anemones and feather-stars
- Rocky bottom – suitable for starfish, sea urchins and feather-stars.

Slide 39 – 41 What are the threats to the marine environment?

Threats include:

- Overfishing
- Dredging the seabed for shingle and rocks – this destroys important habitats
- Coastal erosion due to rising seawater levels
- Pollution, sewage, oil spillage

We are working hard to minimise the impact of these threats by creating underwater nature reserves called Marine Conservation Zones that limit activity in the most important areas.

***Slide 42 – Recap of the different habitats**

We have learnt about the special habitats there are in B&H and how we are trying to protect and improve them.

These slides show a progression of habitats going from the downs to the sea.

[Click to activate next image](#)

It is important that wildlife can move around the city between these habitats – e.g. bats come from the woods where they roost into the city to eat insects at night, seagulls come in to the city to feed then go back out to sea . Your school grounds and gardens can play an important role in helping create these 'green wildlife corridors' within the city.

***Slide 43 – Recognising that Brighton & Hove is a special place**

Just like your school might be a healthy school or an eco-school, Brighton & Hove wants to share what they are doing to make the city better for wildlife, so has applied to become what is known as a 'Biosphere Reserve'.

A biosphere is a site of excellence bringing people and nature closer together. It is about managing the environment well and encouraging more nature into our city. If we get this award, it will mean people from all over the world may be interested in finding out how we care for the wildlife and habitats in our city.

[Click on slide to show how the biosphere is made up of all of the **habitats** + the **species** + the **people** in the city.](#)

Slide 31 – Where are the other biosphere reserves?

The dots show all the other biosphere reserves in the world.

There are 598 sites in 117 countries (In 2012).

There are only 7 of these sites are in the UK.

Brighton & Hove (if successful) will be the first urban biosphere in the UK.

It will be the first new biosphere reserve in 35 years.

[Click on slide to show locate proposed B&H biosphere on world map.](#)

Slide 32

You'll probably see the 'Here Here' signs for the biosphere around town. You may even join in some biosphere events.

Note the logo was chosen because of the spelling of the word biosp**HERE**
Hopefully now you will be able to tell other people about the biosphere and understand 'What **IS** so special about the habitats of Brighton & Hove'