



Young Heritage Hunters

Ancient Hedgerows in Milton Keynes Teachers' Pack



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Introduction

Young Heritage Hunters was a 12-month education project to encourage students to explore their local heritage. The project was funded by the Heritage Lottery Fund. Throughout the project we worked with several schools and community groups to encourage students, families and the wider community to explore the past heritage of this new city. The project is led by Milton Keynes Heritage Association (MKHA) which was set up in 1994 when a group of local history groups came together with the aim of encouraging and developing co-operation between organisations which have an interest in the heritage of the Milton Keynes area. MKHA has around 60 members with a wide range of historical and heritage involvement. You can explore MKHA's website [here](#).

Ancient Hedgerows was one of the first projects set up for the Young Heritage Hunters programme. Emerson Valley School has a short stretch of hedgerow within their grounds and working with the 'Eco Squad', we spent some time exploring the hedgerow. In this guide you will find information on Milton Keynes' hedgerows, and tools and ideas on teaching and learning from hedgerows.

Curriculum Links

A study of hedgerows can contribute to a wide range of curriculum areas.

QCA Schemes of Work

History Key Stage 1 & 2	Unit 18: What was it like to live here in the past?
Art & Design Key Stage 1 & 2	Unit 2b: Mother Nature Designer
Geography Key Stage 1 & 2	Unit 6: Investigating Our Local Area
Science Key Stage 1 & 2	Unit 1b: Growing Plants
Science Key Stage 1 & 2	Unit 2b: Plants and Animals in the local environments Unit 2c: Variation Unit 3b: Helping Plants Grow Well Unit 5b: Life Cycles Unit 6a: Interdependence & Adaptation
Science Key Stage 3	Unit 7c: Environment and feeding relationships Unit 7d: Variation and Classification Unit 9c: Plants and Photosynthesis Unit 9d: Plants for Food

Primary National Curriculum until 2014– Statutory areas of study

This information was taken from the [Department for Education website](#) in December 2012.

History Key Stage 2	Change and continuity in the local area Local History Study
Geography Key Stage 1	Investigating their local area
Science Key Stage 2	Places, patterns and processes
Science Key Stage 1	Life processes and Living things
Science Key Stage 2	Life processes and Living things

The New History Curriculum (draft)

In the New Year the coalition government unveiled its new draft curriculum for history. It has been outlined on the [Historical Association website](#) February 2013. A study of hedgerows links to the new curriculum as follows:

Key stage 1	Significant historical events, people and places in their own locality.
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Hedgerows in Milton Keynes

Hundreds of years ago, the area that was to become Milton Keynes was divided by networks of hedgerows. These created corridors for wildlife providing food, shelter and protection.

Ancient hedgerows are defined as those that existed before the Enclosure Acts of 1720 and 1830. These Acts closed off open fields and common land preventing local people from using them and bringing the land together into farms for cultivation. From 1945, hedgerows were in decline in due to neglect and removal. However, the Master Plan for Milton Keynes (1970) recognised that hedgerows and trees were a distinctive feature of the New City's countryside and as such were valuable and had to be conserved. In 1997, regulations came into force which discouraged the removal of important hedgerows.

Emerson Valley began to be developed in the early 1980s. The area was originally two farms called Emerson and Valley with a network of hedgerows dividing the fields. Hedgerows are a mixture of the natural plants and animals and man-made management of the hedge.



Natural Environments in Milton Keynes

When Milton Keynes was being developed, names for the areas were chosen which linked to the history of the place. Many of them refer to the natural environment.

Woodlands	Shenley: 'ley' or 'leah' means a clearing within woodland. Howe Park Wood was an original medieval wood.
Fields	In the Saxon period, land was split up. This was usually done by the Lord of The Manor for his tenants. It was called the open field system. The fields were split into furlong strips (about 200m). Later, the Enclosure Awards set by parliament between 1658 & 1790 meant that land had to be enclosed by hedges leading to the development of hedgerows. Here are examples of city areas named after fields: 1680: Brinklow Hill 1685: Northfield (from 'Great Northfield') 1690: The Downes 1742: Downhead; Furlong; Furzton (from 'Hodge Furze'); Fuller's Slade (from 'Fulwell Sladefield'); Greenleys 1769: Child's Way; Great Holme (from 'Great Hold'); Kentshill; Kingsmead; Knowlehill. 1781: Ashland; Groveway; Netherfield. 1790: Rooksley 1850: Oldbrook 1860: Blakelands 1871: Beanhill 1923: Pennyland; Redmoor; Springfield (from a field in Little Woolstone parish); Winterhill (from Winter Hill Furlong.)
Spring	Bradwell: one of the original villages; its name comes from the Saxon for spring – 'wella'
Hill	Conniburrow: named after Connie Borough Hill in 1641. The names of roads in this grid square link to British wild flowers.
Ford	Great Linford is mentioned in 944AD as 'Linfordia'. The precise origin is uncertain but probably refers to trees close to a ford. 'Lind' is the old name for lime trees.
Tree	Two Mile Ash: named after an ash tree on Watling Street that was a landmark for travellers
Bushes	Stacey Bushes: this was formerly common land and called 'Stumpy Bushes'.



About Natural Features

Most of Milton Keynes lies on Oxford Clay (heavy) and only species tolerant to clay will survive in this area.

Hedges: Usually a ditch was dug to identify a boundary and the soil from the ditch was placed on the owner's land to form a mound and it was on this mound that the hedge grew. Often the ditch was already established as a watercourse, like a stream or river. Whilst appearing natural, hedgerows are artificial because humans have managed nature by developing the natural environment.

Trees: The most prolific species of trees used to be various types of Elm but these were mostly wiped out by Dutch elm disease which spread through England in the 1970s. Elm accounted for 80% of the trees in this area with Oak, Ash and Field maple accounting for the rest.

Hedgerows: Three main layers form hedges - these are herbs, shrubs and trees. The dominating shrub is Hawthorn. Other less dominant species are Blackthorn, Ash, Elder, Rose and Maple - as appeared in a survey carried out in 1977.

Animals: Bank voles, Shrews and Wood mice are the most common species found in hedgerows although all our wildlife depends upon hedgerows for cover and as corridors; no species relies totally on hedgerows.

Birds: Hedgerows provide a natural cover for birds with protection from predators such as Buzzards, Red kites, Sparrow-hawks and Foxes. Many species use this cover to build nests. As numerous shrubs and trees produce fruits, the most common birds to be found are of the Finch family which have beaks designed to break open nuts and berries. When the hedgerows were in open country the Linnet was very common as it also fed on the crops grown in the surrounding fields. Members of the Thrush family including the Blackbird will also nest in hedgerows. A winter visitor to our area is the Redwing, which is also a member of the Thrush family and flies to us from the much colder parts of Europe. It has always visited and is very common in the Emerson Valley area. Despite all the building which has taken place in Milton Keynes, Redwings still return every December and leave in January.



Dating Hedgerows

In 1977, Milton Keynes Development Corporation carried out a survey of its hedgerows using the Hooper Method of hedgerow dating. This method included hedges of Parish Boundaries, village closes (garden boundaries), canals, ancient tracks and river valleys.

The Hooper Method:

The method establishes the age of hedgerows by looking at the number of species found in a 30-yard length (about 27½ metres):

$$\text{Age} = (99 \times \text{number of species}) - 16$$

- Example: if 5 species are found in 30 yards of hedge:
Age = $(99 \times 5) - 16$
Age = $495 - 16 = 479$ years old in 1977
Therefore the date of planting was about 1498 AD.
- Sample at **SHENLEY BROOK END** with 6 species of shrubs was 578 years old in 1977 i.e. 1399 AD.
- Sample at **TATTENHOE** with 10 species of shrubs was 974 years old in 1977, i.e. 1003 AD.

Find Out: The Age of the Hedgerow

1. Find a stretch of hedgerow with plenty of mature trees and shrubs in it to survey – e.g. Yew trees, Hawthorn, Blackthorn, Copper beech, Silver birch, Oak, Horse-chestnuts.
2. Split the class into smaller groups for this activity
3. Each group should have a clipboard with activity sheet, pencil and tape measure.
4. Talk to students about how trees grow, that they get taller and thicker. You can compare this to how children grow. The students may know that the tree's age can be found by counting rings in a tree's trunk, but there is a way of finding a tree's age without cutting the tree down. Roughly a tree grows in circumference by 2.5 centimetres a year. Therefore by measuring the circumference of a tree's trunk in centimetres and dividing the measurement by 2.5 you will have an estimate of how old the tree is. Give six measured trees numbers from 1 for the youngest to 6 for the oldest.
5. Ask them to count the different types of tree and shrubs in the hedgerow then use Hooper's Method to calculate the approximate planting date.

NB the time of year affects what students may be able to see – see the Survey sheets to help explore the hedgerow which can be found at:

<http://www.hedgelink.org.uk/hedgerows/hedgerowsurveyarea.html>



Activity Sheet:

Hedgerow Habitats Walk (wash hands as soon as possible after the touching activity)

We are going to investigate the hedgerow using our senses.



What can you hear?

Stand still and listen quietly.

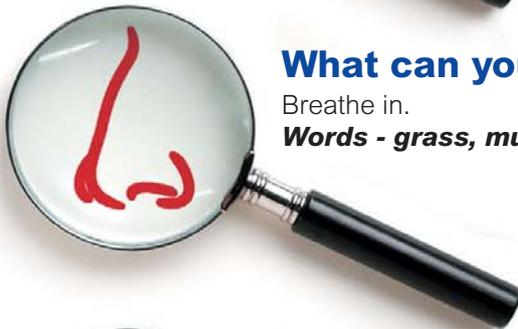
Words - wind in the trees, insects buzzing, birds singing



What can you see?

Look on the ground, up high and at different hedge parts.

Words - plants, animals, colours and shapes



What can you smell?

Breathe in.

Words - grass, mud, flowers



What can you feel?

BE CAREFUL! Remember the plants and animals are alive. Treat with care. Look out for sharp bits and anything that stings.

What can you feel? Are there different textures?

Words - rough, smooth, waxy, ridged, soft



What can you taste?

BE CAREFUL! Do not eat or put anything in your mouth. Hedgerow plants can be poisonous.

Stick your tongue out and taste the air. What is it like?

Words - Wet, fresh, dry, car fumes and countryside

Interdependence and Adaptation

What do we know about plants?

- They are living things
- They produce food by using the sun's energy, water and air
- Only plants can produce their own food. Humans get energy from food that we eat - plants and animals.

Animals depend on plants

- Food
- Shelter



Nettles are a very important source of food for many insects and different types of caterpillar.



Birds nest in trees such as horse chestnut. Owls don't build nests as they lay eggs directly in the tree hollows.

Plants depend on animals

- Seed dispersal
- Pollination



Photo: Mike Pennington

Goose grass also known as cleavers has seeds with tiny little hooks. This is a way of the plant spreading its seeds as they can be transported on fur or clothes. Show a piece of Velcro for comparison.



Yew Tree berries are poisonous to humans but birds can eat them. The birds fly to different places. The seeds pass through the gut and therefore travel to different places.

Mini-Beast Hunt

Equipment needed:

- Bug jars
- Paintbrushes
- Plastic spoons
- Hand lenses

Log Hunt:

BE CAREFUL – wash your hands before and after you do this. Remember that insects are living creatures. Be gentle. Some centipedes, earwigs and spiders can nip.

1. Find an area with some small logs which have rested in one place for some time.
2. Carefully turn a log over to reveal the ground underneath; look for animals in the soil, leaf litter and on the log.
3. Using a paint brush or small plastic spoon, carefully transfer a small animal from the log or soil to a bug jar.
4. Look at the animals in the bug jar.
5. Identify the catch using the bug identification sheets
6. After noting what was caught, release the animal close to where it was found.
7. Put the logs back the way they were.

Bug Hunt Identification Sheets:

http://www.bbc.co.uk/breathingplaces/downloads/pocket_guides/

http://www.naturedetectives.org.uk/download/hunt_minibeasts.htm

Enter a competition:

http://www.bbc.co.uk/breathingplaces/downloads/pocket_guides/

More mini beast information:

http://www.doeni.gov.uk/niea/minibeast_for_web.pdf

Different parts of the plant and their roles:

- **Roots:** *(These anchor the tree and transport food and nutrients.)* Look at different sized roots and how much they space need *(Roots need space to spread out in order to get water.)*
- **Stem / trunk:** *(This protects the plant and transports its food.)*
- **Branches with leaves:** *(These produce food. Explain that some plants have their leaves in the form of needles.)*

Ask students to **look directly underneath a tree** and where the dense canopy doesn't reach. Students will notice that nothing grows directly underneath the tree. Ask them why? The answer is lack of sunlight. This is a good opportunity to tell/remind the class what plants need to grow well.

Plant Eye Spy Activity

Equipment needed

- a clipboard
- pencil
- survey sheet

What do plants need to grow well?

- Light
- Water
- Nutrients
- Space



Plants make their own food by turning carbon dioxide into energy using sunlight and water. Plants have different positions in the hedgerow to get what they need in order to grow.

Climbers: e.g. Ivy. These move towards the light and provide habitats for bats, birds and invertebrates.

Trees: These grow upwards to get light.

Moss and lichens: They grow on rocks, fallen logs and tree bark.

Fern: They like shade and grow on the ground under trees.

Fungi: These do not need much light so they can grow at the base of trees.

Activity:

You can carry out this survey on one day only, or return to the site on other occasions as the plants will be in flower at different times of the year.

BE CAREFUL – do not pick the plants

Divide the students into pairs:

1. Ask students to look in the hedgerow particularly on the ground and up high to find interesting plants.
2. Use the Plant Eye Spy Sheet to identify plants in the hedgerow.
3. Ask them to make a note of where they saw each type of plant.

There may be an opportunity to introduce students to legislation protecting wildflowers and why they should not be picked, and the Countryside Code.



Worksheet – Plant Eye Spy Activity

Draw your plant here	What is it like?	Where was it found?

Further references:

Books:

- *Survey of Selected Hedgerows in Milton Keynes 1977* by Kate Swabey.
- *Survey of Hedgerows (Part 2) 1979* by T.A. Powell (Part 2 of Kate Swabey's survey.)
- *Survey of Hedgerows in the Designated Area of Milton Keynes* by John Rowland 1968 & 1971.

Websites:

Milton Keynes Heritage Association

<http://www.mkheritage.co.uk>

MKHA Young Heritage Hunters

<http://www.mkheritage.co.uk/yhh>

The Woodland Trust:

- Free School Packs:
<http://www.woodlandtrust.org.uk/en/jubilee-woods/what-you-can-do/schools/free-schools-packs/Pages/school-tree-packs.aspx>
- Fact sheets and information:
<http://www.woodlandtrust.org.uk/en/jubilee-woods/get-involved/Documents/jw-hc-resources-facts-en.pdf>

The People's Trust for Endangered Species:

- A detailed information pack on general hedgerows:
http://www.ptes.org/files/310_hedgerow_guide_web_version.pdf

Hedgelink:

Hedgelink 'brings everyone interested in hedgerows together, to share knowledge and ideas, to encourage and inspire.'

<http://www.hedgelink.org.uk/hedgerows/hedgerowsurveyarea.html>

The English Hedgerow Trust:

This was established 'to reduce the destruction of hedgerows in the British countryside and can provide contacts, technical expertise, labour and materials.'

www.hedgerows.co.uk

Natural England:

This 'delivers an agri-environment scheme which provides funding to farmers and other land managers in England.'

www.naturalengland.org.uk

Department for Environment, Food and Rural Affairs:

A useful surveying and management handbook is available.

www.defra.gov.uk/farm/environment/landscape/documents/hedgerow-surveyhandbook.pdf

Small Woods Association:

This is 'Britain's leading organisation in supporting and promoting the work done by the owners and carers of small woodlands.'

www.smallwoods.org.uk



LOTTERY FUNDED

www.hlf.org.uk

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www.mkheritage.co.uk