

Year 4 Habitats KS2

The aims are:

- recognise that living things can be grouped in a variety of ways
- explore and use classification keys to help group, identify and name a variety of living things in the local environment
- recognise that environments can change and that this can sometimes pose dangers to living things.

Introduction to the MG near the entrance including safety and behaviour. Identify different habitats in the first field. – wood (copse), grassland, hedges, scrub, stream, wetland, pond

Walk through **the copse** stopping to discuss some aspects of this habitat
(small wood, bluebells etc flower early before leaves, trees live for 100s years, store carbon, deciduous and evergreen, good for many birds and biodiversity)

Leave drinks etc on the seat by pond 1.

Whole group sit/stand on boardwalk to discuss how '*environments can change and that this can sometimes pose dangers to living things*':

MG has been changed by managing the grassland to increase the number of flowers and animals- positive change. Dogs disturbing wildlife and attacking sheep - negative. *Ask the children for some ideas about each topic below and cover pros and cons fairly quickly.*

1. **Farming** – intensive arable, high yield, use of fertilisers, soil nutrients used up, break down of soil structure, and herbicides and pesticides, loss of wild plants (monoculture) and insects (bees affected – important pollinators, plant pests such as aphids are bird food)
2. **Gardens** – fences and hedgehogs,
3. **Buildings** – loss of habitats for wildlife, but we need more houses.....Don't use special places where threatened species live eg great crested newts
4. **Roads and railways** – good for business and quicker journeys but general loss of habitat eg ancient woodlands and HS2
5. **Litter** – small mammals can get trapped in cans and bottles, animals may eat plastic....

Then divide into **2 groups**:

Wildflower grassland – '**bug**' hunting, and grassland management - sheep (*lawn mowers*) hay cutting, wild flowers.

Pond dipping – identify pond life including some plants

Timing

Intro at entrance and in copse - discuss habitat	9.25 - 9.35
go to seat by pond 1 and	
on boardwalk discuss changes to environments	9.40 -9.50
Activity 1	9.55 - 10.35
Activity 2	10.40 - 11.20
Summing up	11.25 - 11.35

Wildflower grassland

Start by looking at the **Flower-rich Grassland information board**

Either by grassland information board or in shade on boardwalk 'do' **wildflower grassland information sheet** with adults recording children's answers on blank sheet: 'crib sheet' for guidance below. Questions shown in bold.

Activity will cover soil, light, air, water. How many grasses, what flowers, bug hunting and why this sort of grassland is better for biodiversity. **Using sweep or butterfly nets** children will use **keys** to identify **invertebrates** (mainly insects) and adults complete tick sheet. We provide equipment and identification keys etc.

Flower-rich Grassland information board

Inkberrow Millennium Green is special site – a Local Wildlife Site for Worcestershire because of its remnant lowland neutral grassland classified as MG5. These wildflower grasslands were once common but most have now been lost. Worcestershire has more remnants of this sort of grassland than any other county.

How and why was this sort of grassland lost?

Ploughed up.

Built on,

Re seeded with single grass species good for cattle etc.

Sprayed to get rid of 'weeds'

What do we mean by good grassland?

Farmers view v conservationists view

Farmer <i>fertile, rich grass good for fattening animals</i> <i>no flowers (weeds)</i>	Nature lover <i>Lots of different flowers and grasses</i> <i>No fertilizer added.</i> <i>Managed for hay crop or grazed</i> <i>Not ploughed for a long time</i> <i>undisturbed soil stores a lot of carbon helping reduce global warming</i>
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Some farmers have an agreement to look after this sort of grassland – it is called Stewardship.

Why is it good to have lots of different grasses and other flowers?

Good for bio-diversity

lots of flowers – lots of insects feed on them. Other insects and birds feed on insects

Looks nice for people to enjoy. Bees need pollen and they pollinate other crops.

Look around at the grassland habitat. What does the grass need to grow well?

Light, soil, air, water/rain

What made the humps? *Ant hills*

What is ridge and furrow? *How the land was ploughed in Medieval times – plough only turned soil one way.*

Both these are characteristic of this sort of old wildflower grassland. The land has not been ploughed for hundreds of years.

Equipment: nets for bug hunting, keys

Wildflower grassland information sheet

This sheet to be filled in by accompanying adult from children's guided answers. Inkberrow Millennium Green is special site – a Local Wildlife Site for Worcestershire because of its remnant lowland neutral grassland classified as MG5. These wildflower grasslands were once common but most have now been lost. Worcestershire has more remnants of this sort of grassland than any other county.

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Recording sheet for Invertebrates in grassland.

Either each pair/group of children has a tick sheet and adults help with identification or adults do the recording as well.

Name	Tick if found	How many legs (none, 6,8,lots)	Anything you want to say about it
Slug			
Snail			
Worm			
Woodlouse			
Millipede			
Centipede			
Spider			
Harvestman			
Insects			
Cranefly			
Grasshopper			
Ant			
Lacewing			
Bluebottle / fly			
Aphid			
Froghopper			
Butterfly			
Beetle			
Hoverfly			
Ladybird			
Shield bug			
Moth			
Earwig			
Bee			
Wasp			

Ponds

By pond 2

Activity will cover adaptation to aquatic environment, invertebrates, any vertebrates found and plants. We provide equipment and identification keys etc

Start by 'doing' **pond information sheet**. *Information sheet with guided questions for adults leading the group so no need for children to spend time recording.*

Children use **keys and complete tick sheet** for what they find when pond dipping.

Ponds information sheet

If the ponds are very low extra care is needed going down banks and getting stuck in mud.

Although we use the bigger pond for this habitat study it is not ideal when low for either children or the creatures that live in the pond – please ensure that when the dipping trays are emptied they are tipped gently back into the water and not dropped in from the top of the bank.

What sort of habitat is a pond? - *Watery or Aquatic*

Plants in and around the pond form part of the habitat in which the animals live.

What do plants need to grow? - *water, air, light, soil*
Obviously water is there - more than in other habitats

Where is the soil? *Banks and mud in bottom.*

How do plants get their nutrients/food? *Through their roots:*

Some plants grow on the banks – point out examples

Some root in the bottom but some float and get their food from the nutrients in the water – look when they are pond dipping.

How do the water plants get light? *Most send leaves up to float on surface eg the pond fringe (like a small water lily) and some are just under it e.g. hornwort.*

How do they get air? *From leaves at the surface but some can get what they need from the water and give out oxygen (may be able to see little bubbles around the hornwort) – these are important for keeping the water oxygenated which helps the animals which live in the pond.*

What do the animals that live in the pond feed on? *Plants and each other!*

Could you live in a pond?!

Animals that live in water *are adapted to breath in water with gills or come up to breath (eg newts) every so often or live on surface (eg pond skaters)*

What do you expect to find? Explain **mostly invertebrate nymphs** but may find vertebrates e.g. tadpoles or newts. Also that many are **stages in the life cycle** and that they may **emerge from the pond** to become adults eg dragonflies and midges. (*Life cycle: egg, nymph which grows in water by shedding its 'skin', adult*)

POND DIPPING

warn of danger and not to poke each other with nets handles!

Work in two's or three's.

Equipment: *tray, net, spoon, viewing pot, key to pond invertebrates.*

Each group record what they find and identify on a tick sheet. Adults help them use the keys. Depending on group, weather and time it may work better for adults to do recording!

Pond recording form

place a tick (or the number found) in the box next to each animal

Invertebrate name	Tick or number	Any comment
Pond snail		
Ramshorn snail		
Midge larva		
Water flea		
Leech		
Freshwater hoglouse		
Freshwater shrimp		
Pond skater		
Water boatman		
Diving beetle		
Beetle larva		
Water scorpion		
Dragonfly nymph		
Mayfly nymph		
Damselfly nymph		
Other		
Vertebrates		
Tadpole		
Frog		
Frog spawn		
Newt		
Newt tadpole		
Other		