

# Discovering Arable Habitat

LEARNING AND ENQUIRY PACK

## Teacher notes

### Introduction

Arable land is cultivated to provide annual crops such as wheat, potatoes, maize and vegetables. Under sympathetic agricultural management arable fields can support a host of “arable weeds” as well as a wide range of other species, including birds, bats and bees.

However, intensive farming practices such as the use of herbicides and fertilisers, changes from spring to autumn sowing and increased competition from modern crop varieties means that arable habitat and the wildlife that depends on it is declining.

This Back from the Brink project, lead by Plantlife, focuses on 13 species – 10 plants and three ground beetles. Practical conservation work targeting these species will have knock on benefits for many other threatened species. We are also training volunteers in botanical surveys to help assess species numbers and working to increase awareness of this declining habitat with the general public.

By using this schools resource pack you are helping to raise awareness and inspire the younger generation in our arable landscape, an often overlooked habitat that is crucial for so many of our best loved species.

### Aims and curriculum links

The aim of this learning and enquiry pack is to help primary school children develop a better understanding of arable farming and the wildlife associated with it. Arable farming covers 25% of the land area of the UK and provides a vital habitat for a host of specialist species, yet many children have little knowledge or direct experience of it.

The key themes addressed by the activities in this pack include:

- Providing food
- Food chains and webs
- Pollinators
- Ecosystems and habits

The activities encourage pupils to think more carefully about farming, food and arable habitat as a key ecosystem. They will also help pupils acquire personal, learning and thinking skills which build upon skills including teamwork, effective participation, creative thinking and reflective learning. The activities can be used to support specific areas of

curriculum study or as a means to stimulate thought and debate. They could be used as part of a topic or as “one off” activities.

To get the most out of this activity booklet we recommend taking your class on a walk to an arable field, using public footpaths and rights of way that border fields or even go on a trip to visit a farm.

All of the activities are optional, standalone and do not have to be completed in one go; you can pick and choose which are suitable for your class and the location. The field trip could take between 2 - 4 hours, depending on class size and which activities you choose.

### **Classroom activities before the walk**

Before the field trip, here are a few questions or activities you could discuss with the class:

- What is a crop?
- Can they think of any?
- Where do crops grow?
- What foods does each crop make?

Try discussing fields – how would they describe the word field? Is a field part of a farm? What other things might they find on a farm?

You could also talk about where they are going, why it's important to stay on the footpaths, take litter home and keep quiet so they can hear the birds and other animals.

The following words, for which there are definitions in the glossary at the end, could be used to prompt the children to think about their meanings:

- Arable
- Diversity
- Habitat
- Pollinator
- Ecosystem
- Habitat
- Crop
- Conservation

### **Kit list**

Useful items to take with you into the field:

- Wellies
- Camera
- Coats
- Magnifying glass for some of the activities
- Clipboards
- Pencils, pens, colouring pens
- Spare paper

## Using the activity sheet in the field

### What Crop?

Activity 1: Have a look at your field, is there a crop growing that has been planted by the farmer? Have a think about what foods these crops make?

You can use the Mosey in the Margins (MitM) activity guide to help you work out what crop is growing in the farmer's field by using the illustrations. Depending on the part of the country you are in you may come across other crops including potatoes, turnips, sugar beet, alfalfa and a host of different vegetables. If you want more information on the different crops, please visit: [fao.org/land-water/databases-and-software/crop-information/en](https://www.fao.org/land-water/databases-and-software/crop-information/en)

### What type of soil?

Activity 2: Use the soil detective chart in MitM to help you find out which type of soil is in your field.

With the permission of the land-owner you can take some soil samples back with you to do the experiment mentioned in MitM if you believe you have a chalky soil. For more information on soil types visit: [rhs.org.uk/advice/profile?pid=179](https://www.rhs.org.uk/advice/profile?pid=179) or explore a map of soil types using the BGS [mySoil](#) app.

### Which plants?

Activity 3: Spend some time searching for the plant species in MitM. Draw a flower in the box if you find it.

This is a simple drawing exercise. Some of the species you may find could be uncommon or even rare so keep an eye out. This activity can be linked with other species you can find in UK habitats which are endangered; you could ask what sort of things are causing animals and plants to decline in the wild – development, pollution etc. For more information on the plant species listed in Mosey in the Margins, please visit: [plantlife.org.uk/uk/discover-wild-plants-nature](https://www.plantlife.org.uk/uk/discover-wild-plants-nature)

Activity 4: Choose your favourite flower and spend some time drawing it on another piece of paper and label unusual things you notice about it.

This is a great opportunity to use the magnifying glass to have a closer but careful look at the other features found some of the arable plants you can see in your field.

To build upon this activity and expand pupil's knowledge, they could learn the function or job that each part of the plant has, investigate how water travels around plants or even how they reproduce including seed dispersal, photosynthesis and pollination depending on the age group. For more information, please visit:

[bbc.co.uk/programmes/articles/Mf5rhbTkHLZ3fbJzScyDvC/primary-science-plants](https://www.bbc.co.uk/programmes/articles/Mf5rhbTkHLZ3fbJzScyDvC/primary-science-plants)

## Problem plants or weeds?

Activity 5: Can you see any of these plants?

This exercise is a simple spotter activity, but you can also talk about the weeds and if they have seen them before in their garden etc. For more information on these species, please visit: [plantlife.org.uk/uk/discover-wild-plants-nature](http://plantlife.org.uk/uk/discover-wild-plants-nature)

Activity 6: Why do you think these plants cause problems for other species growing in the same field?

This activity can be linked to food webs and life cycles. For more information, please visit: [bbc.com/bitesize/articles/zcmtk2p](http://bbc.com/bitesize/articles/zcmtk2p) and [bbc.com/bitesize/articles/z2pqfcw](http://bbc.com/bitesize/articles/z2pqfcw)

## Who is in the hedge?

Activity 7: Have a look around the edges of your field and then follow the flow chart to find out what sort of bird or mammal species may live there.

This activity gives the children a chance to have a look at the field as a whole and understand the environment a bit more. You could ask them to think about what species they think will live in the hedge-rows and why they are an important habitat. For more information on hedgerows, please visit: [wildlifewatch.org.uk/hedgerow-wildlife](http://wildlifewatch.org.uk/hedgerow-wildlife)

## How many insects?

Activity 8: Walk 10 paces slowly along a path. How many bugs can you count along your way?

You can walk less or more than 10 paces. You can link this to activities to do back in the classroom such as making a Bug Hotel or a Mini Wildflower Meadow (resources enclosed) and record how many different species you can see over the course of the year and how numbers change over the year.

Activity 9: Choose a colourful flower in the field margin. Sit down next to it and watch for 2 minutes. Record the number of insect visitors to the flower in a tally here.

This is a really useful tool to help the children notice how plants are used by lots of different insects and therefore an important part of the habitat. You can also use this activity as a lead in for talking about photosynthesis and pollinators. Please visit: [edenproject.com/learn/for-everyone/what-is-pollination-a-diagram-for-kids](http://edenproject.com/learn/for-everyone/what-is-pollination-a-diagram-for-kids) for more information.

## Which birds?

Activity 10: Can you see these farmland birds? Use the MitM resource to help spot any birds. If you would like any more information about the species, you can download species information sheets from the RSPB website using the search function. Please visit:

[rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/](http://rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/)

**Activity 11: Listen for 1 minute. See if you can pick out any bird song.** You can listen again to bird song back in the classroom on the RSPB website and see if any of them sound familiar. This also encourages children to be quiet and listen to the environment they are in, connecting them to the environment. Please visit: [rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/](https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/)

### **Many mammals?**

**Activity 12: Can you find signs of mammals along the field edge?** This activity prompts the children to think about the other species that the arable farmland habitat supports and why it is just a vital habitat that needs conserving. If you take any photos of droppings, tracks or animal burrows, back in the classroom you could look at the different types and try and match them up with the species. A list of track and droppings can be found online on the RSPB website and details of animal tracks can also be found on the RSPB website under “Animal Tracks”. The links for these are here:

RSPB: Whose Poo: [rspb.org.uk/fun-and-learning/for-families/big-wild-sleepout/whose-poo/](https://www.rspb.org.uk/fun-and-learning/for-families/big-wild-sleepout/whose-poo/)

RSPB: Animal Tracks: [rspb.org.uk/birds-and-wildlife/natures-home-magazine/birds-and-wildlife-articles/features/animal-tracks](https://www.rspb.org.uk/birds-and-wildlife/natures-home-magazine/birds-and-wildlife-articles/features/animal-tracks)

### **Further information**

#### **Ticks**

Ticks can be found across the UK in both towns and the countryside. Some ticks are infected with Lyme’s disease; the rate varies from zero to about 15%. They are very small and bites can go unnoticed. Ticks are mainly active in March to October but they can be active on mild winter days. Keep an eye on any bare skin whilst in the field and just be mindful that they could be present. If you, or any children start to feel unwell after being in the field and you suspect they have been bitten by a tick, then seek medical advice. For more information on ticks, visit:

[assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/694158/PHE\\_Tick\\_Leaflet.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/694158/PHE_Tick_Leaflet.pdf)

#### **Countryside Code**

The countryside code is a set of guidelines put together to maximise your enjoyment of the countryside, whilst respecting and protecting the environment. The code includes:

#### **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

For more resources, please visit [countrysideclassroom.org.uk](http://countrysideclassroom.org.uk) or [education.leafuk.org](http://education.leafuk.org)

### Useful terms

This list of words could be used as a classroom activity before going into the field to start children thinking about the words associated with the habitat they are going to visit and what these words mean to them.

**Arable:** land that is cultivated or prepared for growing crops.

**Pollinator:** an animal that visits flowers and takes away the pollen.

- Examples of most common types of pollinators include: bees, hoverflies, moths, butterflies and beetles.
- They sustain our ecosystems and produce our natural resources by helping plants reproduce.

**Diverse:** to show a great deal of variety. The more diverse a habitat, the more likely it is to be a healthy environment.

**Crop:** a plant that is grown on a large scale commercially, especially a cereal, fruit, or vegetable.

**Conservation:** the protection of animals, habitats, birds or environments from the damaging effects of human population.

**Photosynthesis:** the process by which a plant uses the energy from the light of the sun to produce its own food.

- Photosynthesis can be explained by this formula:
  - Carbon Dioxide + Water >>>SUNLIGHT>>> Sugar + Oxygen
- The chemical equation for photosynthesis is:  $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2$

**Habitat:** the natural home or environment of an animal, plant, or other organism.

**Environment:** the surroundings or conditions in which a person, animal, or plant lives or operates in.

**Ecosystem:** a biological community of interacting organisms and their physical environment.

**Organism:** an individual animal, plant, or single-celled life form.