



## School Bioblitz: Teacher's notes

As part of your Bioblitz experience you will have a specialist from Heritage in Schools working with you to help you get started with identifying your plants and animals, but it is a good idea to get the children involved in trying some simple identification for themselves. We have provided you with a simple recording sheet to help. You can print out as many as you need.

### Organising Your Bioblitz

It is not necessary to identify all the different kinds of plants and creatures found to species, just count the number of different kinds. Species may be listed as Spider type 1, Spider type 2, Tree type 1, Tree type 2 etc.

All types should be drawn to the attention of the teacher who will ensure that the same one will not be counted several times. Breaking the pupils into teams will reduce the workload here. Teams might be tasked with counting particular groups, e.g. trees, other plants, invertebrates (minibeasts).

If good photographs of individual minibeasts or plants can be taken, send these to your Bioblitz heritage specialist and she or he will try to have the specimen identified to species. Only those species verified by the team will be uploaded by the school to the recording scheme.

When surveying the study area, do not overlook habitats like walls, roofs, and the bark of trees. Here various mosses and lichens may be found. Gutters may contain plants.

The recording sheet attached may be used to record the various types found along with other data including the date, time of survey, weather on the date when the survey is done and the names of the team completing the sheet.



In advance of the survey date, various simple traps and methods to catch minibeasts may be deployed in the survey area. These are detailed below.

The aim is to catch the minibeasts without harming them and to release them after the survey.

**Bush bashing:** lay a white sheet below a shrub or bush. Disturb the leaves and branches by shaking them without damaging the plant. Minibeasts present will fall onto the sheet where they may be collected into containers. An upside down umbrella, especially if pale in colour, may be used instead of a white sheet and will make it less easy for active bugs to escape.

**Shelters:** During the night, many minibeasts leave their daytime shelters to forage over the ground. They return to these places before daylight catches them in the open. The idea here is to provide other shelters for them that you can examine. Such shelters might be bricks, wood, damp cardboard or plastic sheets, or slates laid on the grass or solid surfaces.

**Pitfall traps:** Here plastic cups or jars are dug into the ground so that the lip is flush with the soil. Roving minibeasts fall into these and cannot easily climb out. The trap is best covered by a roof to prevent rain falling in and drowning the creatures caught.

[How to make a pitfall trap to catch insects and other minibeasts | Natural History Museum \(nhm.ac.uk\)](http://www.nhm.ac.uk)

**Sieving:** if you can obtain a garden sieve and have leaf or other vegetable litter in the area, collect some of these, place it on the sieve and then shake the sieve over a white sheet.

**Hand netting:** if you have access to a fine meshed hand net, this can be swept through tall weeds and minibeasts collected. The net can be emptied over a white sheet or white tray and minibeasts examined.

**Bird feeders:** the deployment of feeders or seeds scattered on the ground over the days prior and during the survey will allow the estimation of the number of birds visiting the survey area.

**Safety note:** some bugs can sting, e.g. ants, bees and wasps, and others, such as various caterpillars, may cause skin reactions, so be careful. Catch minibeasts by scooping them onto spoons or into jars or by using pooters and take care not to harm them.

**Pooters:** <https://www.craftyart.ie/> about 4 euro each

### Getting Started with Identification

First of all have a look for any identification books, posters, swatches, posters or charts that you may have in school already and gather them together in one place. Teachers or students may also have guides at home that they can bring in. Irish books and guides are easiest to work with as we have lower numbers of species than the UK or Europe, so it is much easier to find a match. Don't worry about finding the exact species but it is a good way for children to investigate living things and improve their observation skills.



The Heritage in schools website has lots of resources to get you started on your Bioblitz. Video tutorials can be found at <http://www.heritageinschools.ie/online-tutorials> and other resources and links can be found in the Teacher's Resources section including Wild Things at School by Éanna Ní Lamhna [http://www.heritageinschools.ie/content/resources/Wild\\_Things\\_at\\_School.pdf](http://www.heritageinschools.ie/content/resources/Wild_Things_at_School.pdf).

## **Additional Online Resources**

If you want to go a bit further with identification, the lists below include some online resources for specific groups of plants and animals. You might like to take a look and print out some of the posters in advance, so you have them to hand.

We will start with plants. They are often easier to identify than animals as they stay in one place.

### **Trees:**

The Tree Council of Ireland <https://www.treecouncil.ie/> have pictures, videos and lots of resources on our native trees. Some common non-native trees like beech, horse chestnut and sycamore are easy to identify but other exotic trees may be more difficult so just concentrate on the easier ones. This handy leaf identification sheet <https://carlowsports.ie/wp-content/uploads/2020/05/CW2001-Leaf-Identification-Challenge.pdf> can be used to identify some of the more commonly found leaves from both native and non-native trees. The Woodland Trust in the UK also have lots of tree related resources on their website [http://www.treetoolsforschools.org.uk/activitymenu/?cat=tree\\_id](http://www.treetoolsforschools.org.uk/activitymenu/?cat=tree_id)

### **Wild Flowers:**

Zoë Devlin's website <http://www.wildflowersofireland.net/> is a good resource for identifying wildflowers. Flowers are grouped by colour and there is a handy list of what is flowering at the moment. <http://www.irishwildflowers.ie/> is another great site that also includes trees, mosses, lichens and other plants if you want more detail. Garden plants may be harder to identify as they can come from anywhere in the world, but if they have been recently planted, some may have the labels still attached or someone in the school may know what they are called.

### **Birds:**

Birdwatch Ireland <https://birdwatchireland.ie/> has pictures and information on all the common garden birds

### **Invertebrates (Minibeasts):**

Minibeasts are a hugely diverse group so it is probably best to concentrate on telling the different groups apart.

- 6 legs: Insects including flies, bees, wasps, bugs, ants, beetles, moths and butterflies.
- 8 legs: Spiders and harvestmen (arachnids)
- 14 legs: Woodlice (crustaceans)
- Lots of legs: Centipedes and millipedes (myriapods)
- No legs: Earthworms (annelids); Slugs and snails (molluscs)

This minibeast challenge sheet <https://carlowsports.ie/wp-content/uploads/2020/05/CW2001-Mini-Beast-Hunt.pdf> can help with identifying some of the more common groups and this challenge sheet can give you tips on where to look <https://carlowsports.ie/wp-content/uploads/2020/08/CW2006-Minibeast-Safari-Challenge.pdf>

UK charity Buglife has a handy online key to help identify the main groups of invertebrates <https://www.buglife.org.uk/bugs/identify-a-bug/>

### **More detail on minibeasts**

Some groups of minibeasts can be identified quite easily to species level. The easiest are butterflies, ladybirds, shieldbugs, dragonflies, damselflies and bumble bees. You can find some posters of bumble bees, butterflies and shieldbugs at <https://www.biodiversityireland.ie/resources/other/> and ladybirds at <https://www.rte.ie/documents/learn/2021/04/ladybirds-of-ireland.pdf>

Check out the pollinator lesson plans on <https://pollinators.ie/> which includes information on how to survey for insect pollinators and how to identify the main groups [https://pollinators.ie/wp-content/uploads/2021/02/FIT-Counts-guide-to-identifying-the-different-insect-groups\\_2021.pdf](https://pollinators.ie/wp-content/uploads/2021/02/FIT-Counts-guide-to-identifying-the-different-insect-groups_2021.pdf)

You can also check out <http://www.habitas.org.uk/dragonflyireland/> and <http://www.mothsireland.com/gallery3/>

Your Bioblitz heritage specialist will be able to help you identify some insects to species level if you have a good photograph, but many others can only be identified by specialists using a microscope.

#### **Other animals:**

If you have a school pond you may find other minibeasts in the water and possibly frogs or newts. It would be very unusual to see mammals in school grounds during the day time but some schools might see tracks or signs of mammals.

#### **Apps:**

Some identification apps like Seek (free) and Picture This (yearly subscription) can be useful to help with identification of plants and animals but should always be checked against Irish books or websites for confirmation.

#### **Recording Species**

Your Bioblitz heritage specialist will be able to help you identify some plants and animals to species level if you can get a good quality photograph and show you how to upload the records to the National Biodiversity Data Centre on <https://www.biodiversityireland.ie/>

It would also be a nice project for the school to take photographs or get the children to draw or make rubbings of the various plants and animals they find and keep a record of them. You might even be able to add other photos or drawings at a later date.