

## Project plan: Bio-blitz



In this Project Plan, we outline a field study that is not time-restricted, but ideally would be carried out over 1-2 hours. This project is suitable for any age group, with ideas for discussion suitable for different key stages outlined at the end of this document.

The idea of a **Bio-blitz** is to build up a list of all the different kinds of living things that can be found in a particular area. Once you start looking, you might be amazed at how much you can find, even in a short time. However, the more you look, the more you will find!

The method is very simple –choose an area to study, and then find and identify as many different species in that area as possible. The area that you choose can be as small as you like (e.g. your back garden or a small pond) or as large as you like (e.g. your school grounds or a local nature reserve).

An important starting point for the project is to discuss the question of “**what is a species?**” This is a simple question with some very complicated answers, but a useful definition for the purpose of a Bio-blitz, is “**a type of living thing that looks distinctly different from other types**”.

Before you start, have a guess of how many different species live in your chosen area. You could make a separate guess for different “kingdoms” of living things, e.g. by filling in the table below:

Kingdom	How many species do you think live here?	How many species did you actually find?
Animals		
Plants		
Fungi		
<b>Total</b>		

**Once you have chosen your area to study, start to explore it:**

- Look out for birds feeding or flying over
- Listen out for bird songs
- Check for any signs of wild mammals
- Look on leaves and under stones for mini-beasts
- Collect leaves of different species of trees
- Look for different types of wild flowers
- Search for different kinds of grass, ferns and lichens
- Search tree trunks and logs for fungi
- Dig up a small patch of soil to look for worms and other mini-beasts
- Look in any puddles, ponds or streams for any aquatic (water-living) animals or plants

Make a note of the time that you start your Bio-blitz, and the time that you find each new species.

## Identification

There are lots of identification guidebooks available for identifying the species that you find, but don't worry if you don't know exactly what something is, just write down a short description, e.g. "seagull with dark grey back", "light blue dragonfly with thick body"

There are lots of excellent identification guidebooks, to help you to identify the species that you find. Many of these books deal with a particular group, such as birds, trees, insects etc., but for a Bioblitz a general guidebook that covers all of the species that you are likely to encounter is really useful. Here is one that we can recommend:

### **The Collins Complete Guide to British Wildlife: a photographic guide to every common species.**

Available for approx. £11 from Amazon.

If you can't identify something, you could take a photo of it, and upload the photo to the ispot website, where a team of experts from the Open University are available to tell you what you have found!

[www.ispot.org.uk](http://www.ispot.org.uk)

## Points for discussion

Discuss what a species is

- individuals that look the same (but what about males that look different from females, adults that look different from juveniles?)
- individuals that can breed together (though some species can hybridise)
- individuals that are closely related to each other

Discuss why some species are common and why some are rare

Estimate the overall size of your study area. Discuss how long would it take to find every species in areas of different sizes

- 1m<sup>2</sup>
- 10m<sup>2</sup>
- 100m<sup>2</sup>
- The whole of your chosen study area
- The whole of the UK
- The whole world

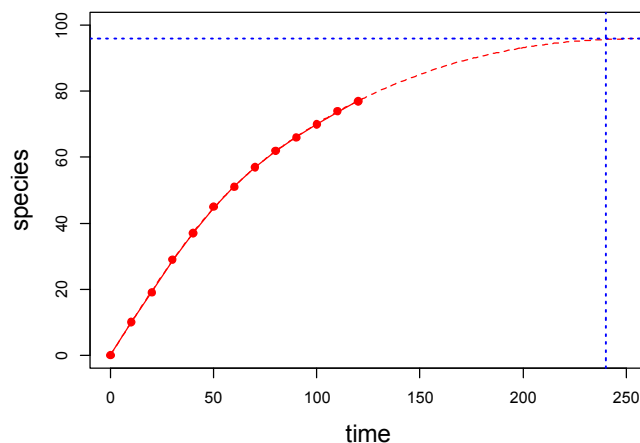
How many species did you find in...

- 10 minutes
- 30 minutes
- 1 hour

Key stage 3 pupils could create a **species accumulation curve**, plotting the cumulative number of species found against time. The shape of this curve can be used to estimate the total number of species that would be eventually found if you searched for

- 4 hours
- 4 days
- For ever!

**Figure 1:** A species accumulation curve, showing the cumulative number of species that were found every ten minutes during a Bio-blitz (red dots). The shape of the solid red line connecting the red dots can be extended to predict the number of species that might be found in the future (dashed red line). For example, the graph suggests that after 4 hours (240 minutes), 96 species would have been found.



### Follow-up exercise: Construct a simple food web

Your food web could include...

- sunshine, rain, carbon dioxide, soil minerals
- plants
- parasitic plants (e.g. mistletoe)
- invertebrate herbivores (e.g. caterpillars)
- vertebrate herbivores (e.g. rabbits)
- omnivores (e.g. squirrels)
- vertebrate predators eating invertebrates (e.g. birds)
- vertebrate predators eating vertebrates (e.g. foxes)
- decomposers (e.g. fungi, bacteria)

Discuss what would happen if one of the species in your food web became extinct.

Discuss what would happen if many of the species in your food web became extinct.

# Bio-blitz recording sheet

Group name:

Study area:

Date:

Time of day:

Species no.	Time found	Brief description	Habitat	Species name
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				