

# Minibeast Hunt and Minibeast Habitat Creation

## Dr Forsey's Outdoor Education SmartCases

This kit can be used for a Minibeast Hunt, or more accurately, Woodland Invertebrate Surveys log piles, rock piles, habitat hotels and leaf litter and for a Minibeast Habitat Creation activity by a class of school students lead by a teacher.

In this lesson plan you will find the following information to ensure optimum use of the equipment and help you achieve the best possible learning outcomes for your pupils:

- Equipment list
- Full activity methodology
- Suggested adaptations for age and ability
- Curriculum links
- Suggested follow up activities

The kit and associated methodology has been developed and refined over a number of years, it has been tested by thousands of school students and hundreds of teachers, both in school settings and fieldwork locations.

## Kit list –

*You will need (for a class of 30 participants working in five groups of six):*

- 5 x Gratnells SmartCase
- 15 x Heavy duty white plastic dessert spoon
- 15 x Paint brush (1-2cm brush head)
- 30 x Transparent collecting pots with lids (100-200ml capacity will be small enough to fit in the SmartCase)
- 5 x Magnifier pot
- 10 x Small magnifying glass
- 10-15 x ID Guide (e.g. FSC Woodland Name Trail or Minibeast ID Dial)
- 15 x Habitat tray (small gravel trays ~xcm x xcm x xcm work well for this purpose)

### JOB MEASURE SIZE OF GRAVEL TRAY

- 30 x Small hand trowel
- 5 x Established log and rock piles in a shady, accessible, safe outdoor location

## Preparation – day before the activity

- Split the equipment equally between the five Gratnells SmartCases.
- If using downloadable ID Dials, print, cut out and laminate the ID Dials and secure with a split pin.
- Select or design a recording sheet/card (examples shown at the end of this guide) suitable for the age and ability of the participants, print or download as required.
- Designate your working area using markers e.g. football cones (not included in kit) if no natural or man-made boundaries exist.
- Split the participants into five groups of six. Each group of six will share one SmartCase of equipment. For the habitat creation part of the activity, the teams of six will split into three groups of two and each pair will make their own habitat tray.

## Primary National Curriculum Links:

- KS1 Working scientifically
- Year 1 Animals, including humans
- Year 2 Living things and their habitats
- Year 2 Animals, including humans
- Lower KS2 Working scientifically
- Year 3 Animals, including humans
- Year 4 Living things and their habitats
- Year 4 Animals, including humans
- Upper KS2 Working scientifically
- Year 5 Living things and their habitats
- Year 6 Living things and their habitats
- Year 6 Evolution and inheritance



# What to do –

Travel to your log pile area, the participants will be able to carry their own equipment in the SmartCases.

## **Introduction and Demonstration (~10 minutes)**

Explain that in this activity session we are going to find out about minibeasts and their habitats. Ask them these questions while in your minibeast area or as part of your classroom work ahead of your outdoor session....

### **What is a habitat?**

The place where an animal lives is known as a habitat, and different sorts of animals live in different habitats. Habitats can be very big, like the arctic habitats where polar bears live, or very small such as between two blades of grass where a money spider might make its web. Remember, a habitat is just the place where the animal lives. Your house is your habitat!

***A pile of logs will be a habitat for many minibeasts and possibly some larger animals. Can you think what creatures we might find?***

The participants may say hedgehogs, mice, woodlice, beetles, slugs etc. Depending on their level of advance knowledge, they may name more invertebrates. This is an opportunity to assess their existing knowledge and expectations. Tell them that we are going to look for the invertebrates living in the log piles today, any larger animals are likely to have been scared away when we approached.

***Can anyone see any other habitats around them?***

***Up in the trees, in the hedges, under the leaf litter.***

***We are hoping to find lots of minibeasts in their habitats today, but what are minibeasts?***

***“Mini”= small, “beasts” = animals. They are small animals. Depending on the age/ability of the students you may wish to introduce the word ‘invertebrates’ i.e. creatures with no backbone.***

***Older/higher ability participants might consider how are these animals are adapted to life in the log pile/leaf litter?***

***Exoskeleton for protection, spiracles (small holes) for breathing, hard wing cases to protect delicate wings and appropriately coloured body structures for camouflage are all examples of adaptations.***

### ***Run through the golden rules for minibeast hunting....***

- Always put logs and rocks back the same way up.
- Never stand on the logs, you might squash the minibeasts living underneath!
- Always make your minibeast feel at home  
(pop some leaf litter into the collection pots with them so they can hide).
- Keep slugs separate, they stick to everything!
- Look carefully, lot of the minibeasts are the same colour as the soil.
- Keep quiet and tread lightly so you don't scare the minibeasts away.
- Be Gentle! Minibeasts are fragile.

***Point out the area they will be working in, assign each group to a log pile and make their boundaries clear (using cones or markers if no natural boundaries exist).***

## Explanation of the task

- Working in groups of up to six participants per SmartCase, make sure the participants have all their equipment in hand for capturing even the speediest minibeasts (they need only the brushes, spoons, collecting pots and magnifiers for this part of the activity). Move to one log pile, show them the equipment and demonstrate its use.
- Work together and carefully tilt or roll the logs up off the soil from one side, there is no need to lift them completely away and they will be heavy. Move only one log at a time.
- Gently collect what they find under each log into pots using the brushes or spoons, keeping slugs separate.
- Identify and record their finds using the ID guide and your recording method of choice appropriate to the age and ability of the students.
- Top Tip! Be sure to have a brush or spoon in one hand and a collecting pot in the other with the lid off before your team members roll or tilt the log, you will want to be ready to swoop in and collect any speedy minibeasts before they scurry away.



## Activity 1 – Minibeast Hunt (~30 minutes)

- Each group takes their SmartCase full of equipment to their log pile and carries out the minibeast hunting procedure, following the minibeast hunting golden rules. Move between the groups, checking on progress and directing them to/supporting them with identification and recording.
- Any participants finishing particularly quickly could be asked to find a particular not so common minibeast or two, e.g. a very black slug or a centipede.
- When the time is up, or the participants are ready to move on to the next activity, they should place their kit back in their SmartCases (bringing the minibeasts containing pots with them) and gather into one group around you. They should not release the minibeasts at this time.

## Activity 2 – Habitat Creation (~20 mins)

### Introduction

- Now the participants have learnt where minibeasts live, they are going to make their own minibeast habitat. Ask them to think about what makes a good minibeast habitat? They should say, dark, damp, leafy etc depending on where they have been finding their minibeasts.
- Ask the students - what are the three things that all creatures need to survive?

**Answer - food, water and shelter. They will need to put all three of these things in their habitat tray.**

- Ask the students - what will they use for water? Explore their answers then explain they should first collect damp soil/leaf litter for the base of their habitat, using the small towels in their kit, as that is where most minibeasts obtain their water. They should not dig anything living (i.e. green plants) out of the ground.
- Ask the students - what will they use for food? They can use the ID Dials to look up what their invertebrate(s) of choice eats.
- Ask the students - what will they use for shelter? They should have learnt from the minibeast hunt activity where their invertebrates like to shelter. Ask them not to collect anything that is bigger than the habitat tray. They are just making a mini minibeast habitat.
- They could choose one type of minibeast (lower ability/age) to make a habitat for, or make a communal habitat in which several minibeast's needs should be met (higher ability/age).

### Activity

- Working in pairs the students have one habitat tray between two and one trowel each (no other equipment is needed for this activity).
- The students work back in the area of their own log pile to collect the items needed for their habitat.
- Any participants finishing quickly should be sent away to collect more items to make their habitat even better and ensure they have food, water and shelter options for all of their minibeasts of choice.
- Once the time is up, or the participants are ready to move on, gather all participants into a circle.
- Go around the circle asking each pair what their chosen minibeast is and what they have put into their habitat for food, water and shelter.

## Other things to try:

### ***Minibeast Models/Build A Bug***

Research, design and build a giant model of an insect or spider. Conduct your research through observation of live specimens or use a variety of photographs. Use natural materials collected from your grounds or craft materials found in the classroom for construction. Think carefully about the number of body segments, legs, pairs of wings, antennae and tails or sting. Alternatively design your own imaginary bug. Take the activity further by thinking about how the insect's features make it perfectly adapted for life in the log pile/leaf litter.

### **Food chains/web**

Initiate further discussions about log pile food chains/webs now or as a follow up in a later lesson. Students could research what the invertebrates eat, and what they are eaten by, identifying which animals are carnivores, herbivores and omnivores and drawing a food chain before linking several together to form a web. This can also be done as a practical activity outside, with each participant taking on the role of a different invertebrate and linking together using rope or string.

### **Abiotic conditions**

During your investigation, record the weather conditions, air and soil temperatures using thermometers or data loggers. Repeat the activity and these observations at different times of year and compare the results.

### **National Projects**

You could take part in the OPAL Bugs Count Survey

### **Share**

Share photographs of your work, your finds and your habitat trays using #WhatsInMyTray and #OutdoorLearning on social media.

### **Health and Safety**

As with all Learning Rooms activities, you should carry out your own risk assessment prior to undertaking any activities or demonstrations. In particular, the size of the logs used for the log piles and exposure to soil and water borne pathogens should be considered and appropriate precautions taken.



# Example recording sheets:

*Example ID tick card – great for younger participants – you could create your own with the tick card:*

### Minibeast Hunt - Tick Card

Slug

Ground Beetle

Other.....

Woodhouse

Spider

Banded Snail

Round Worm

### Example ID recording sheet –

great for older participants – you could create your own to obtain the data you need for post-activity analysis and development of specific numeracy skills or for follow up work on adaptation or food chains/webs.

**Your name** ..... **Date:**.....

Species	Tally	Total	Interesting Features
Slug			
Woodlouse			
Ground Beetle			
Round Worm			
Spider			
Millipede			
Centipede			
Ladybird			
Banded Snail			