

Stage 3: Minibeast in your Garden

Activity 1: Pitfall Traps

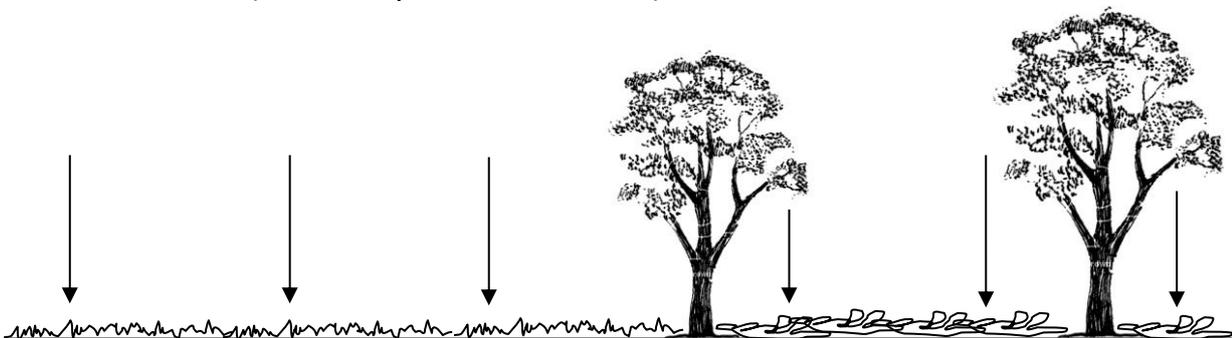
Pitfall traps sampling involves placing a small container buried to ground level so that it can collect anything that falls into it. Pitfall traps are the most commonly used technique. They catch a large amount of material for very little effort, most commonly ants, spiders and beetles. They are also easy to standardise.

Equipment

- Small shovel
- Plastic jars with opening smaller than 45mm
- Small sheets of cardboard
- Wet Trap: enough water to fill 2cm at the bottom of the jar and a few drops of detergent.
- Dry Trap: Margarine
- Labels for each pitfall traps
- Clipboard with the Data Sheet
- Identification sheet

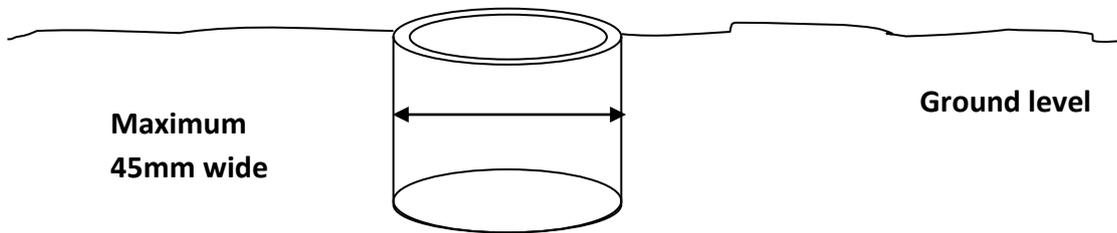
Procedure:

1. **Select** your sites - three in lawn and three in leaf litter - and **write down** what each site is called (for example, 'Leaf litter 1').

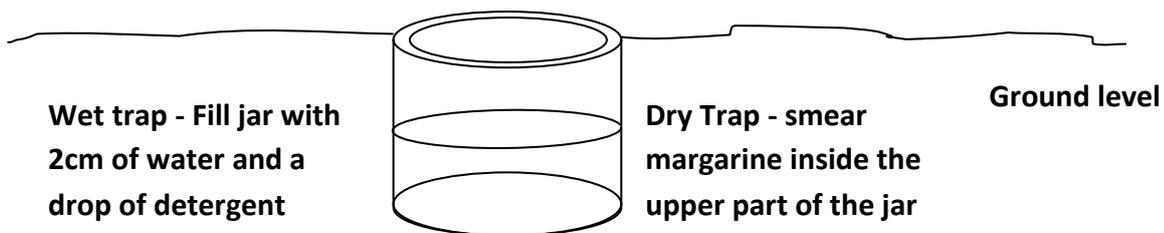


2. Label all cups or jars with the name of the site (for example, 'Lawn 2'). You can put the label on the outside of your jar or place it in the bottom of the jar.

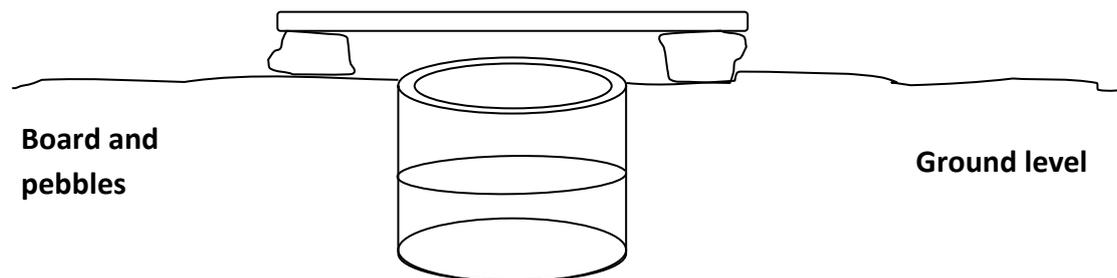
3. **Bury** a small jar up to its neck in the ground at your selected site.



4. **Fill** the jar with 2 cm of water and **add** a drop of detergent to break the surface tension of the water or leave the cup dry and smear margarine inside the upper part of the jar.



5. **Place** a piece of cardboard over the jar, slightly raised on some pebbles. Invertebrates will scuttle under the board for shelter and fall into your pitfall trap.



6. **Leave** the traps in place over night then go back and **collect** them, keeping careful note of which traps were in lawn and which were in leaf litter.

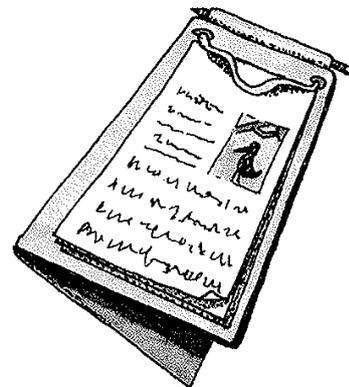
NOTE - check on the traps in the afternoon and morning for vertebrate by-catch. If small invertebrates are found remove them immediately.

Activity 2: Leaf beating

Leaf Beating involves actively collecting invertebrates by stunning them out of a tree or branch. Leaf beating is probably the most widely used technique for collecting invertebrates from vegetation. It is a good technique for collecting beetles, ants, bugs and spiders.

Equipment

- Broom stick or branch
- White paper or drop sheet
- Plastic containers to store collected specimens
- Clipboard with the Data Sheet
- Identification sheet
- Hand Lens



Procedure:

1. Use the broom stick or branch to hit the branch 3 times in quick succession
2. Invertebrates then fall out on to a white drop sheet where they can be seen easily and counted or collected.

Data Sheet 1: Pitfall traps

Divide into groups: three groups for the lawn area and three groups for leaf litter. Set up the pitfall trap following direction on page 10.

Date	
Time	
Name of site	
Temperature and weather conditions	

Number of specimens found in each trap						
	Open area			Leaf litter area		
	1	2	3	1	2	3
Amphipods						
Springtails						
Spiders						
Snails						
Slaters						
Centipedes						
Millipedes						
Beetles						
Flies						
Larvae						
Ants						
Worms						

Comments:

Data Sheet 2: Leaf Beating

Place a white drop sheet or white paper under the branches of the tree or shrub. Use a stick or broom handle and hit the branch 2–3 times. Invertebrates will be stunned and fall to the white sheet or paper below. Complete the experiment and fill out the data sheets. If time permits, you can use a variety of trees and comment on the difference.

Date	
Time	
Name of site	
Temperature and weather conditions	

Number of specimens found at each site						
	1	2	3	4	5	6
Ants						
Flies						
Spiders						
Beetles						
Caterpillars						
Butterflies						
Grasshoppers						
Bugs						

Comments: