

INSECT EXPLORERS' SERIES: BEATING A BUSH

Beating a bush is one of the most productive methods of collecting insects, mites and spiders from the foliage of the trees and shrubs. It is particularly useful for collecting beetles, herbivore insect larvae and other predatory insects. Though beating is best for collecting larvae, many active, free-living and flying insects may be found also particularly if the weather has made them lethargic.

Learning Objectives: After this activity students will learn

- To identify insects from non-insects
- Get introduced the insect populations
- Know about plant-animal interaction
- Learn to care for insects
- Learn to record, analyze and present the data

Group size: 3 students per bush

Duration: 1 hour.

Requirement: A cloth sheet 1 x 1 m, a short, sturdy stick, magnifying hand lens, blunt forceps, plastic jars, insect viewing boxes, Insect Identification Sheet, Insect Data Sheet.

Method:






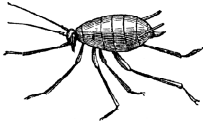

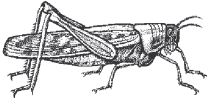










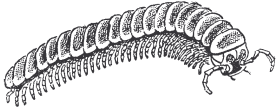

- Identify a sturdy shrub and locate a branch 2-3 cm thick
- Stretch the cloth beneath the branch by holding at two ends
- Hold the branch tip with one hand and beat the branch with the stick
- Strike hard enough so that insects clinging to the branch fall off on the white sheet below, where it is easy to see and capture them.
- Strike the branch with a downward stroke; a sideways stroke may cause some specimens to fall.
- It is also advised to give a branch two sharp blows in rapid succession, on the theory that the first stroke loosens the insects hold and the second dislodges them. Beating at night with the aid of a headlight is particularly effective for collecting beetles and other insects.
- Examine the sheet for the specimens and tick off the one you saw on the Insect Identification Sheet. You need to count the number of individuals as well. Alongwith insects there will be other non-insect specimens tick them off as well.
- Capture fast moving insects into jars, handle them with care. Do not press them too hard between the forceps.
- Record your findings in Insect Data Sheet.
- Release the animals on the same plant.
- Analyze your data by answering following questions on the datasheet.

Extension: More plants could be used for similar activity and the results could be compared to assess which plant supports maximum or minimum life forms. The reasoning would range from health of plant to bark structure. If it is a diseased plant, more scavenging insects will be found or if the bark provides more space for hiding, more predatory insects will be found.

Precautions: Instructors should check the plants for safety purpose before it is assigned to the group. Ensure students do not hit the branches hard causing damage to the plant. Nor any life forms should be killed during the study process. Demonstrate students how to use forceps lightly.

INSECT IDENTIFICATION SHEET

Tip: All six legged animals are insects.

 <p>Grasshopper (juvenile)</p>	 <p>Caterpillar</p>	 <p>Tree Ant</p>	 <p>Praying Mantis</p>	 <p>Beetle</p>
 <p>Aphid</p>	 <p>Frog Cricket</p>	 <p>Grasshopper</p>	 <p>Fly</p>	 <p>Bug</p>
 <p>Cockroach</p>	 <p>Wasp</p>	 <p>Earwig</p>	 <p>Termite</p>	 <p>Bristle Tail</p>
 <p>Snail</p>	 <p>Spider</p>	 <p>Wood Louse</p>	 <p>Millipede</p>	 <p>Tick</p>

INSECT EXPLORER'S DATA SHEET

Name of Student Group: _____ Name of the Plant: _____

Date : _____ Time : _____

Name of animal	Number of individuals	Total
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Data Summary:

Number of Insect Groups in the sample	
Total Number of individuals	
Ratio of Adult & juvenile insects in the sample	
Number of non-insect groups	
Total Number of individuals	
Which insect group was abundantly represented?	
Which insect group was moderately represented	
Which insect group was least represented?	
How many animals does the plant support?	

Conclusion:

1. Why you think a particular insect was abundant, moderate, less? Give your own justification

2. What do you think the animals were doing on the plant?

3. What did you learn from this exercise?
