Chapter 18: Habitat Study.

To study a habitat we must follow these 5 stages.

1. Make a simple map.

2. Measure and record the environment factors, e.g. temperature, light intensity, soil water.

3. Collect samples of animals and plants present.

4. Identify and list the animals and plants present.

5. Estimate the number of each animal and plant present.

1. Making the simple map.

- The map should be drawn as if you are looking down on it.
- Include the direction of North, a scale and legend.
- Draw in all features such as paths, trees, fences etc.

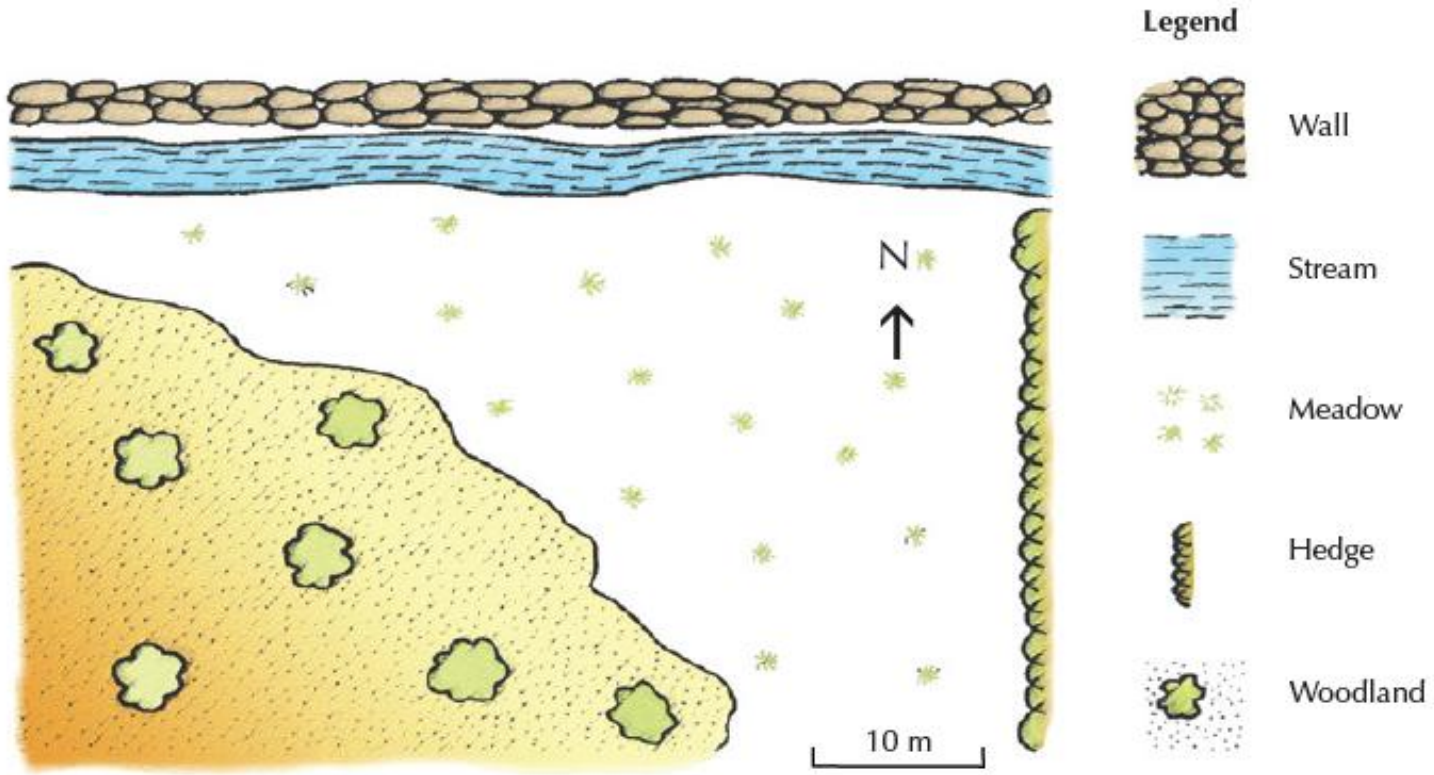

Fig. 1 A simple map of a woodland habitat.

2. Measure and Record Environment factors.

Using a **thermometer**, measure the temperature of the air, water and soil.
Using a **light meter**, record the light intensity.

3. Collecting Animals and Plants.

Ways to collect animals.

A Pooter.

A pooter is used to collect insects. It has 2 tubes. When you suck through one, an insect is sucked through the other.

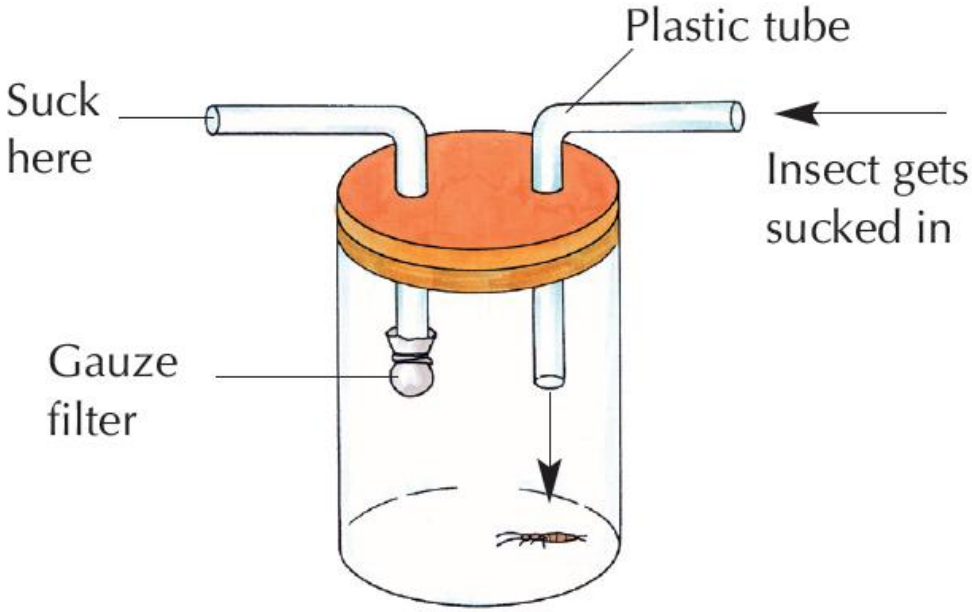

Fig. 2 A pooter.

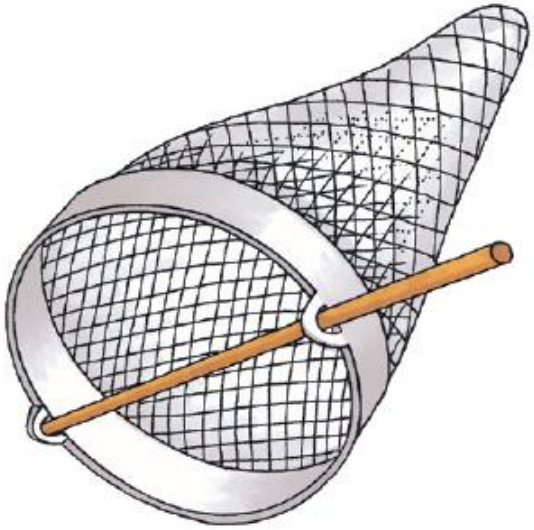

Fig. 3 A sweep net.

A Sweep Net

A sweep net is used through long grass and hedges to collect insects, e.g. Butterflies.

A Beating Tray.

A beating tray is a white sheet that is put on the ground under a bush or tree. When the bush or tree is shaken, insects fall and can be collected.

Fig. 4 A beating tray.

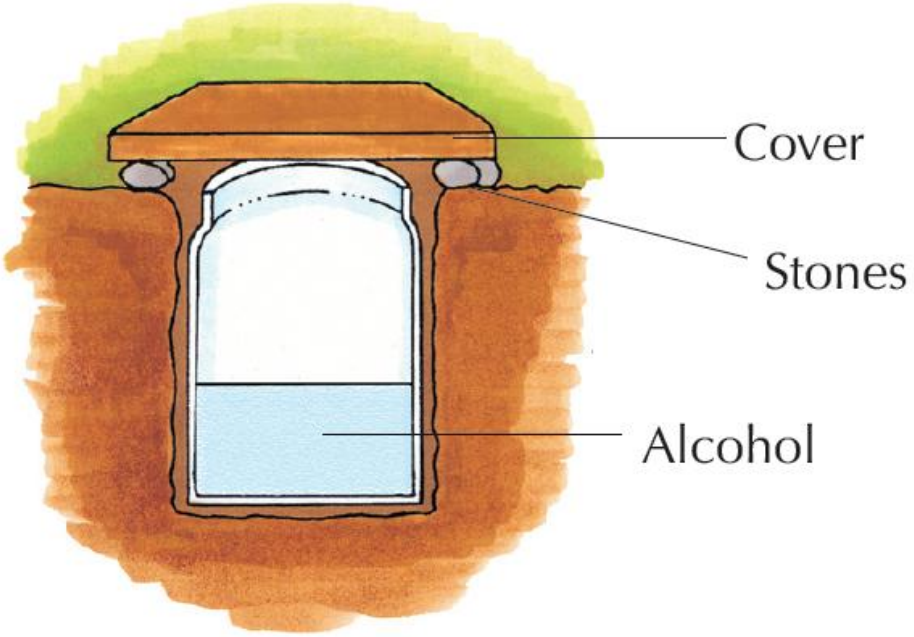

Fig. 5 A pitfall trap.

A Pitfall Trap.

A pitfall trap is a jam-jar that is buried in the ground and is used to collect insects. The insect falls into the jar and the alcohol kills them.

Plant samples are collected in plastic bags and they should be labelled correctly and their location drawn onto the map.

4. Identifying Plants and Animals.

Plants and animals are then identified by looking at other pictures of plants and animals from books or the internet.

5. Estimate the number of plants present.

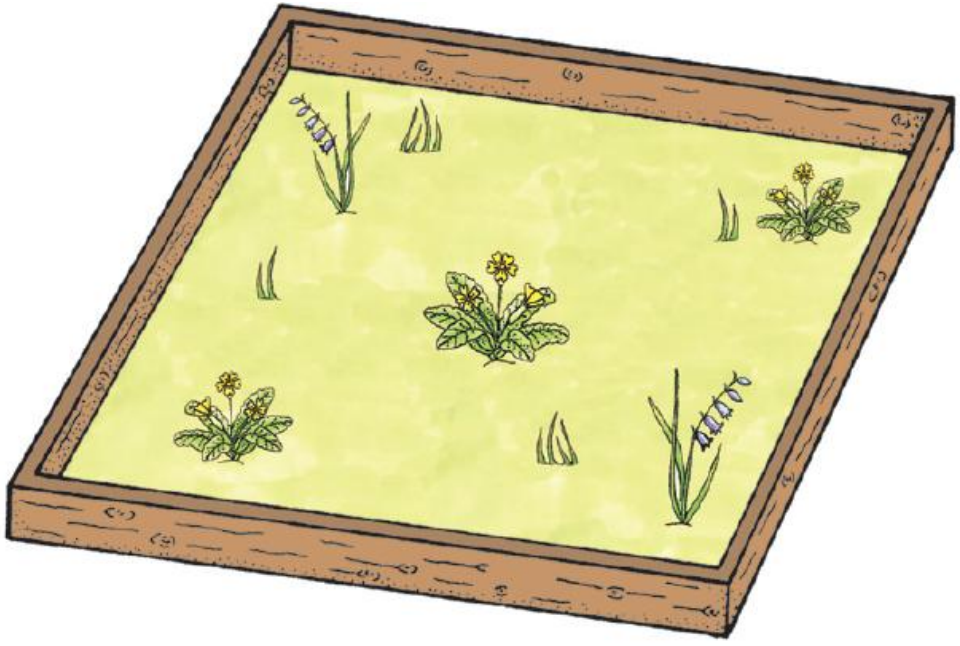

Fig. 7 A quadrat.

A **quadrat** is used to estimate the number of plants present.

It consists of a 1m square which is placed on the ground at random.

The plants are recorded and this is repeated 10 times.

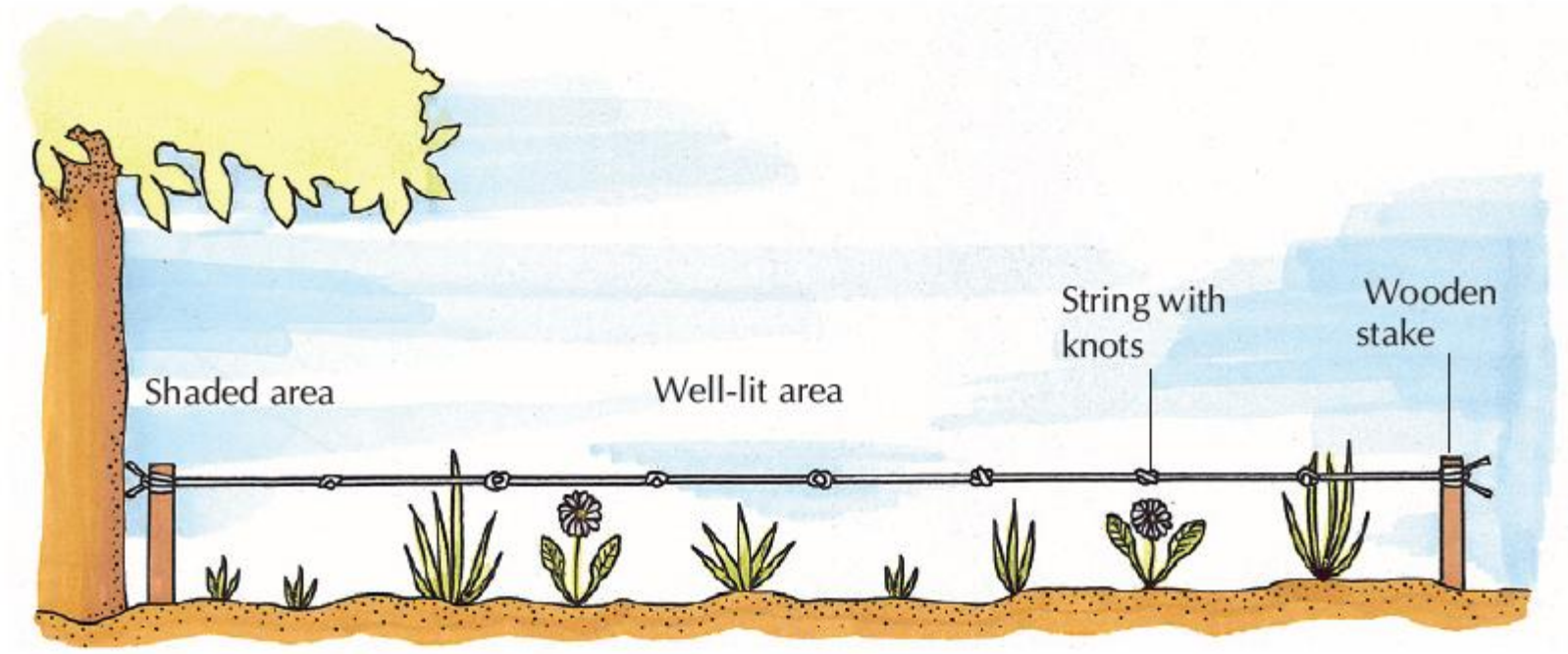

Fig. 9 A line transect.

A line transect consists of a string (with knots at regular intervals) tied to two stakes. One stake is put into the ground at a shaded region and the other is put into a well-lit region. The names of each plant under each knot is recorded.

Competition.

Competition occurs when 2 or more organisms seeks resources such as light, food or water which are on short supply.

Dandelions and grass compete for water.

Hedgehogs and thrushes compete for snails.

Adaptation.

Because of this competition, plants adapt to their environment.

A dandelion's root will take water from deeper on the ground than the short grass root.

A rabbit has strong hind legs to run away from foxes.

Hedgehogs have a keen sense of smell for finding snails, and have spikes on their backs to prevent them from being eaten.