Sheet 16 Name: INVESTIGATING SOIL COMPACTION

Locate a footpath across a field. Choose a 20 metre stretch of path. Measure the width of the path and mark out 2 metres on either side of the path to form a transect across the footpath.

At 7 points on the transect, position a 30cm length of drainpipe firmly in the ground (a hammer may have to be used).

Steadily pour 2 litres of water (bring 2 litre bottles with you – with water or fill on location) into the drainpipe. Carefully time with stopwatches, how long it takes for all the water to disappear at each site. Repeat for a number of sites.

Site A	1	2	3	4	5	6	7
Infiltration time (secs)							
Site B	1	2	3	4	5	6	7
Infiltration time (secs)							

Section 6: Hedgerows, field margins and boundaries.

From the earliest time farmers have found it necessary to divide the land into fields for crops or animals.

In Britain traces of the earliest fields dating from the Bronze Age can be found on the slopes of Dartmoor, the Yorkshire Moors and in other upland areas. As land was cleared for agriculture over the past 3,000 years farmers created boundaries around the fields according to the needs of the agricultural systems they were using and the materials most suited to the land they cleared. Some of the field boundaries we see today may be many centuries old.

Some hedgerows on farmland may date from Saxon times – look for hedges on high banks with deep ditches running alongside them and see whether the hedge runs in a straight line or whether it curves. Curving hedges on high banks could be part of a very old boundary.

Some old hedges have large trees growing in them at intervals. These trees were planted to give the farmer a supply of timber. If you see bluebells growing along the line of a very old hedge it could be that the hedge is the remaining edge of a very old piece of woodland that has been cut down and cleared for farmland.

Some other countries apart from Britain have hedges, some planted by farmers, some have grown naturally. In America for example some hedges have grown along the line of barbed wire fences that separated fields. Birds sitting on the wire have dropped seeds over the years, and the farmers have not ploughed really close to the wire so the seeds have germinated and a hedge has formed.

The impact of farming

Hedgerows and other field margins have been under threat in the past, either as a result of agricultural policies that actively encouraged farmers to remove boundary features making fields bigger, or through the natural ageing process as walls and ditches deteriorated or hedgerows grew old.

Hedgerows and other boundaries including stone walls and ditches, provide:

- A way of keeping livestock and crops separate from each other
- A way of managing grazing systems.

For wildlife they provide:

- A protective area/cover
- An area to build nests and shelters
- An important food source
- 'Corridors' to enable safe movement across the landscape.

Farmers are:

- Maintaining and repairing stone walls across the UK
- Sensitively repairing 'derelict' hedge*
- Planting new hedging, creating new habitat*
- Not cutting hedges in the nesting season
- Leaving some hedges uncut each year to provide an important over-winter food source for wildlife
- Leaving grassy or planted margins around the edges of fields to provide a buffer zone to the boundary feature
- Only cleaning ditches when necessary, not routinely.
- * Between 1990 and 1998, 10,000 km of hedge was planted and almost 13,000 km of 'derelict' hedge brought back into regular management by replanting, coppicing or layering.

Boundary activities

- Introduce the concept of boundaries and the different types that are possible. Children identify different boundaries and estimate how much is being used. (Sheet 17)
- 2. Children investigate a 10 metre stretch of a boundary and do an audit of types of species, plant and animal, that make their home there. (Sheet 18)
- 3. Observational drawing activity based on the biodiversity found at boundary features. (Sheet 19)
- 4. This field sheet helps children to consider the habitats they have seen and investigated and to rank them according to how good a habitat they provide for organisms. (Sheet 20)
- This activity gets children looking at the diversity of the hedge itself, spotting how many different hedge species are present and measuring how the hedge is formed. (Sheet 21)
- 6. As well as hedges children may come across many fields with stone walls or fences. This recording sheet gets children to look at either stone walls or fences and to look for signs that animals either live or visit here. (Sheet 22)
- 7. These activities give the opportunity to look at the diversity of the landscape and relate any variation found with its potential to support biodiversity. (Sheet 23 and 24)