

Audit our grounds

Lesson at a glance

Open by asking how we could know how much life is in the school grounds without counting every creature, then name sampling. Teach biodiversity, microhabitat and quadrat survey with a carpet hoop model before exit. Groups name two contrasting spots, predict which will hold more kinds, then run timed hoop samples outdoors with ID sheets. Indoors they compare tallies, finish the Investigation Journal page, and pool kinds counts on the data-recorder interactive as a bar chart before closing on grounds as a community.

Learning objectives

- Carry out a simple quadrat or hoop survey of a school-ground habitat
- Record and tally the living things found and how varied they are
- Describe the grounds as a community of living things that depend on each other

Before the bell: prep

Walk the grounds and mark a clear safe boundary the day before. Print one minibeast ID sheet per group and one Investigation Journal page per pupil. Gather hoops or string quadrats, magnifiers and clipboards. Have coats ready; check the ground is safe to use.

Materials

Item	Qty	Per	Source	Low-cost substitute
plastic hoop or string quadrat (about 50 cm across)	1	group	school kit	a hula hoop, or four metre sticks laid as a square
magnifying glass	1	group	school kit	shared class magnifiers, or careful naked-eye looking
minibeast ID sheet	1	group	classroom	one shared class ID poster on a clipboard
clipboard	1	group	classroom	stiff cardboard and a bulldog clip
small clear collection pot with lid	1	group	school kit	skip pots and observe in place only
Investigation Journal page	1	pupil	classroom	plain paper with teacher-led headings said aloud before going outside (spot A, spot B, kinds tally, prediction)

**Safety watch-point**

Set outdoor boundaries away from brambles and cars. No tasting plants; do not pick up centipedes; release every living thing on the same spot; wash hands on return.

Teaching moves

- **Getting Started:** Keep equipment off desks so pupils listen. Take three or four partner ideas, then name the puzzle: scientists sample carefully and compare spots. Frame today as Part 1 of the school-grounds project: a biodiversity audit before any planting or bug hotel.
- **What is a biodiversity audit?:** Project only the short board text; keep full concept notes for yourself. Steer biodiversity to kinds, not headcount. Run the full carpet hoop model (wonder, predict, timed look inside the hoop, observe, think) and name it a quadrat survey. Do not cut the model if time is tight.
- **Question and predict:** Name allowed outdoor zones. Before exit, check every group journal has clear spot A and B names, empty kinds columns, and one prediction line with a reason. Prompt light, dampness or shelter differences, and kinds not just individuals.
- **Survey the grounds:** Brief boundary, one short outdoor hoop demo, then keep groups moving through two timed samples. One clipboard holds the recorder's journal page; others spot, ID and time. Repeat fair-sample rules: same hoop, one full minute, only inside, gentle hands, no chasing creatures in. Plant kinds count if minibeasts are scarce.
- **Compare the spots:** Indoors, coats off, outdoor tallies open. Take board questions one at a time: which spot had more kinds, did the prediction match, what condition differed, and how two finds might depend on each other. Watch for individuals counted as variety; separate observation from inference.
- **Record the audit:** Prompt a finish-and-check, not a rewrite: re-findable spot names, both kinds tallies, prediction match with reason, one observation separate from one inference, and one dependence link. Fast finishers sketch a surprise find on the same page so the class stays together for pooling.
- **Pool our tallies:** Open the data-recorder interactive with columns Sample spot and Number of different kinds. Enter one row per group sample, never average unlike microhabitats. As bars appear, say aloud that taller means more kinds, not more woodlice of one kind. Save or photograph if useful for the next project part.
- **Make sense and look ahead:** Ask what the evidence showed about where life is most varied, then link pupils' own dependence ideas to the word community. Close with why ecologists survey before they act. Return kit, confirm releases, and send pupils to wash hands.

What it should show

Expect sheltered or damper spots (hedge edge, wall base, under litter) to show more kinds than open grass or bare tarmac. Bars should rank variety of kinds, not total individuals. A quiet site still works if plant kinds inside the hoop are tallied. Oddly empty sheltered spots often mean the group rushed the minute or only hunted big animals: re-check timing and the ID sheet.

Misconceptions & interventions

- **Biodiversity means lots of animals or the biggest creature we saw.** Point to their tally: ten woodlice of one kind is less varied than four different kinds. Re-voice 'how many different kinds, not only how many individuals'.
- **Pupils tally total headcount or chase minibeasts into the hoop so the sample looks fuller.** Stop at the hoop and restate fair-sample rules: same looking time, only what is already inside, gentle look-first. Ask whether their number is kinds or individuals.
- **A prediction that did not match means the survey failed.** Treat the mismatch as useful data. Ask which condition differed between spots and what they would keep the same next time to stay fair.

Differentiation

Emerging	Developing	Proficient
• Offer two ready pairings such as open grass versus hedge edge, and scribe spot names and the prediction line with the group before exit. • Pair a less confident recorder with a peer who calls kinds from the ID sheet while they tally.	• Prompt them to note one condition difference (light, damp, shelter) beside each spot and whether plant kinds as well as minibeasts changed the result.	• If time allows, add a third contrasting spot under the same fair-sample rules, or critique which bar on the class chart most challenges their prediction and why.

Cross-curricular hook

Tie to Maths Data: enter kinds per sample spot on the data-recorder and read the tallest bar as the spot with the most kinds.