

Audit our grounds

Lesson at a glance

Open by asking how we could know how much life is in the grounds without counting every creature, then land biodiversity, microhabitat and quadrat survey with a carpet hoop model. Groups pick two contrasting spots, predict which will hold more kinds, and prepare tally space in the Investigation Journal. Outside they run two timed hoop samples with the minibeast ID sheet, then indoors compare spots, finish journals, and pool kinds-counts into the data-recorder bar chart before a community and look-ahead talk.

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 site and mark a clear safe boundary the day before. Print one minibeast ID sheet and Investigation Journal page per group/pupil; gather hoops or string quadrats, magnifiers and one clipboard per group. Check weather; postpone only if ground is unsafe. Have coats ready.

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**

Mark outdoor boundaries; mind nettles and brambles; do not pick up centipedes; release every living thing where found; no tasting plants; wash hands on return.

Teaching moves

- **What is a biodiversity audit?:** Project only the short board text. After a brief partner talk on why two spots beat one favourite corner, run the full carpet hoop model cycle (wonder–predict–test–observe–think) so every pupil sees same hoop, one timed minute, count only inside. Head off ‘lots of animals’ by steering to kinds. Protect the model if time is tight; cut share-back first.
- **Question and predict:** Name allowed zones on the outdoor map or board. Before exit, check every group has spot A and B names that can be re-found, empty kinds-tally space under each, and one prediction line with a why. Prompt: are you predicting more kinds, or only more individuals?
- **Survey the grounds:** At the edge, demo one real hoop drop and restate fair-sample rules: same hoop, one full minute, gentle hands, no chasing life in from outside. One clipboard holds the group recorder’s journal; others spot, ID and time. Circulate for equal timing, kinds not totals, and careful release. If minibeasts are scarce, count plant kinds inside the hoop too.
- **Compare the spots:** Indoors, coats off, pace the four compare bullets one at a time. Keep observation (‘four kinds under the hedge’) separate from inference (‘damper, so a better home’). For dependence, prefer two living finds from their tally, or one living thing plus a labelled resource such as rotting leaves.
- **Record the audit:** Prompt finish-and-check only: re-findable spot names, both kinds tallies copied, prediction match with one reason, one observation kept apart from one inference, one dependence idea. Fast finishers sketch a surprising find or list plant kinds — no device task.
- **Pool our tallies:** Open the data-recorder interactive: columns Sample spot and Number of different kinds — one row per group sample, never average unlike microhabitats. Ask whether bars show kinds or individuals, which bar is tallest, and which microhabitat that is. Photograph the board if useful for later project parts.
- **Make sense and look ahead:** Surface evidence first: where life was most varied and why grounds are many microhabitats. Tie community only to pupils’ own dependence ideas from the tallies. Close with why ecologists audit before action, then return kit and send pupils to wash hands.

What it should show

Expect sheltered or damper spots (hedge edge, wall base, under a log) to show more kinds than open grass or bare tarmac. Quiet grounds still work if plant kinds are tallied. Oddly equal or empty results often mean rushed looking, unequal timing, or counting individuals of one kind instead of different kinds — re-check the minute and the kinds rule.

Misconceptions & interventions

- **Biodiversity means lots of animals or the biggest creature we find.** — Hold up two tallies: ten woodlice versus four different kinds with fewer each. Ask which is more varied — steer them to kinds, not headcount or size.
- **One favourite corner is enough; we only need to look where we already know life is.** — Point back to the carpet model: variety changed with the spot, so a fair audit compares two microhabitats with the same hoop and time.
- **We saw four kinds under the hedge, so that proves it is always a better home.** — Separate observation from inference on the journal: the count is what we saw; damp or shelter is a possible reason — and one sample is a clue, not a whole-site rule.

Differentiation

Emerging	Developing	Proficient
• Offer two ready pairings (e.g. open grass vs hedge edge) and sit briefly with the group to set spot names and tally columns before exit. • Let them tally with simple kind names or unknown A/B sketches from the ID sheet while a partner times the minute.	• Prompt one extra condition note (light, damp, shelter, plants) beside each spot after the two samples. • Ask whether more individuals of one kind changed their view of which spot was more varied.	• If time allows, add a third contrasting hoop sample and compare all three kind-counts. • Critique fairness: what must stay the same next time, and how one dependence pair on their tally feeds the community idea.

Cross-curricular hook

Tie to Maths Data — enter kinds per spot in the data-recorder and read which bars show the most varied microhabitats.