

living-things

Survey our school ecosystem

Lesson at a glance

Open by asking where the first person studying the school grounds would look, then name habitat and quadrat before groups predict finds and damp/dry or sunny/shady conditions for one chosen patch. Outdoors, each group places a hoop or string square, tallies plants and minibeasts with ID cards, circles conditions and notes two needs. Back inside, pupils transfer notes into the Investigation Journal, pool tallies into the data-recorder bar chart, and talk through how living things and conditions link as an ecosystem.

Learning objectives

- Survey a real school habitat using a simple quadrat method and record living things found
- Note conditions such as damp or dry and sunny or shady, and what each living thing seems to need
- Explain that living things in one place depend on each other and on the conditions

Before the bell – prep

Check weather and outdoor boundaries; brief a second adult if you can. Print one ID-card set and one outdoor tally sheet per group; clip sheets to clipboards (not full journals). One hoop or ~50 cm string square per group; four rulers work as a square. Name the class patch before the lesson.

Materials

Item	Qty	Per	Source	Low-cost substitute
quadrat (plastic hoop, or string looped into a square about 50 cm on each side; about 2.5 m of string including knot allowance)	1	group	school kit	four rulers or sticks laid as a square on the ground
school-grounds living-thing ID cards (worm, woodlouse, spider, snail, ant, beetle, daisy, grass, clover, moss)	1	group	provided printable	one shared class set on a clipboard rotated between groups
outdoor tally sheet (species marks, damp or dry, sunny or shady, two needs lines)	1	group	provided printable	blank paper with the same four headings written at the top
hand magnifier	1	group	school kit	look closely without a magnifier
clipboard	1	group	classroom	stiff cardboard and a bulldog clip
gardening gloves or disposable gloves	1	pupil	supermarket	shared gloves wiped between pupils, or look-only rule with no bare-hand soil contact
Investigation Journal page	1	pupil	provided printable	ruled page with headings: found, conditions, needs

Safety watch-point

Mind nettles and brambles; no tasting plants or minibeasts; return living things gently; wash hands on return before journal work.

Teaching moves

- **How we survey a habitat:** Project only the short board text for habitat and quadrat. Keep survey as plain language — a careful look and record — and hold ecosystem until the chart is built. Head off the idea that only big animals count: worms, woodlice, moss and grass belong on the record.
- **What might we find?:** Name the shared class patch (hedge edge, grass by the wall, or log pile). Run a quick think-pair-share, then leave at least one short class prediction list on the board — living things plus damp/dry or sunny/shady — before you exit. Protect outdoor hoop time by taking only one or two pair feeds if the yard walk looks long.
- **Survey our patch:** Model the full job sequence at the door so patch time is pure survey. Groups place the quadrat gently, look only inside, tally with ID cards, circle conditions and write two needs before packing up. Return every living thing; no keep jars. Watch for nettles and brambles, then wash hands on return. Indoor pupils can tally from your photos or act as recorders for a paired group.
- **Record in the Investigation Journal:** Hands washed before pencils. This write-up is in-lesson and required — transfer outdoor tallies, conditions, two needs and one remaining question into the InvestigationLog headings. Put sentence starters on the board: We found... / The ground felt... / I think the ... needs ... because...
- **Pool our tallies:** Drive the data-recorder yourself in explore mode — columns Living thing and Total found only. One runner per group reports new species first, then counts; add live and never invent numbers. Finish a completed chart with the main kinds before sense-making; trim surprise chat, not the data entry.
- **Make sense of our survey:** Keep the finished bar chart visible as a static reference. Unpack ecosystem here with evidence-over-opinion: every dependence claim should point at a named bar or journal line. Ask one prompt at a time — who might hide under which plant, who needs damp or shade — and remind groups the journals feed the food-chain work in the next part of this project.

What it should show

Expect common Irish school-ground finds: grass, daisy, clover, moss, woodlice, worms, ants, spiders or snails, with conditions matching the patch (damp/shady under logs or hedge; sunnier on open grass). Tallest bars are often grass or the most visible minibeast. A near-empty hoop usually means rushed looking or the quadrat was stamped flat first — re-place gently and search leaf litter and underside of debris.

**Misconceptions & interventions**

- **Only big animals count — worms, woodlice, spiders, grass and moss are not real living things for the survey.** — Hold up the ID cards and point at the hoop: if it is alive and inside the rim, it goes on the tally. Affirm moss and grass as living things that shelter or feed others.
- **Nothing depends on moss or worms — they just sit there.** — Point at the class chart and ask who loosens soil or holds water and shelter. Link worms to soil and dead plant bits, moss to damp cushions where tiny creatures hide.
- **Wandering the whole field would tell us more than one small hoop.** — Remind them the quadrat keeps every group looking at the same size of ground so tallies can be pooled fairly — that is why ecologists mark one patch.

Differentiation

Emerging	Developing	Proficient
• Pair with a stronger recorder at the hoop; offer board sentence starters for the journal (We found... / The ground felt...). • Limit the outdoor tally to naming finds with ID cards and circling conditions; scribe the two needs lines together.	• Prompt one clear living-thing-to-condition link at the hoop (e.g. woodlouse and damp underside of a log). • Ask why one bar on the class chart is taller than another using their journal conditions.	• Sketch quadrat layout showing sunny edge vs leaf-litter finds; note any bird sign as seen near the patch, not inside the hoop. • Critique fairness: what would change the tallies if we surveyed the same patch after heavy rain?

Cross-curricular hook

Tie to Maths Data — pool group tallies into the class bar chart and read which living thing was found most.

