

Why biodiversity matters: research and food webs

Lesson at a glance

Hand back each group's biodiversity audit and ask which spots felt richest. After a quick pair talk and three board terms (biodiversity, pollinator, food web), groups deep-read Cards B and C on Irish pollinators and the All-Ireland Pollinator Plan, then lightly sample one extra card. Pupils sketch a school-grounds food web on plain paper, record fact-audit link-action on the Investigation Journal page, and harvest action ideas under flowers, shelter and less disturbance.

Learning objectives

- Explain why biodiversity matters using evidence from the audit and research
- Describe one Irish biodiversity problem and how it links to Biology
- Sketch a food web of the school grounds to show interdependence

Before the bell – prep

Print one full set of five research cards per group the day before. Have each group's audit sheets ready to hand back, plus sticky notes or scrap paper. Jot a class fallback list of living things and spots on the board before groups start if any audits are missing.

Materials

Item	Qty	Per	Source	Low-cost substitute
biodiversity audit sheets from earlier in this project	1	group	classroom	a class list on the board of living things and spots recorded in Part 1
research cards (Why biodiversity matters; Pollinators in Ireland; All-Ireland Pollinator Plan; Biology and ecosystems; From facts to action)	1	group	provided printable	one class set used as rotating stations for Cards B, C and a choice card
Investigation Journal page	1	pupil	classroom	plain paper with the four must-record prompts said aloud from the board
plain paper for food-web sketch	1	pupil	classroom	sketch directly on the Investigation Journal page if space allows
pencils and coloured pencils	1	pupil	classroom	pencil only
sticky notes or scrap paper for research notes	5	group	classroom	one shared rough page per group

Safety watch-point

Indoor research lesson; no outdoor or tool hazards. Standard classroom care only. If any pollen-heavy samples from Part 1 are still on audit sheets, pupils with hay fever should avoid handling plant debris and wash hands after tidying.

Teaching moves

- **Getting Started:** Hand back audit sheets. Hold up one completed audit and take two quick hands-up answers: where did we find the most kinds, and where almost none? Keep it light — no research cards or definitions yet. If audits are missing, pair groups or use the board fallback list and leave it visible all lesson.
- **Why our audit matters:** Run a one-minute think-pair-share with audits as evidence. Listen for richer spots under hedges or logs versus bare tarmac, and that living things depend on each other. Capture three strong pupil phrases on the board to reuse in research. Head off the idea that only rare animals count.
- **Biodiversity, pollinators and food webs:** Teach the three core terms one at a time from the short pupil lines; mark Biology as a light name only (ecologists and evidence). End with a 20-second partner whisper — do not cold-call a correct answer before the cards.
- **Research the issue:** Model the cycle live with Card C for about two minutes: wonder, look, pick one fact, link to the audit, think of an action. Every group deep-works B then C (fact, audit link, action idea), then lightly stars one line plus one audit link from A, D or E. Circulate with: point to the audit line that matches that fact.
- **Food web of our grounds:** Model a tiny Irish grounds web on the board first: sun → grass/dandelion → caterpillar or snail → robin. Say aloud that the arrow points to the eater. Pupils sketch on plain paper from their audit; mark guesses with a question mark. Protect sketching time until most webs have at least three linked steps.
- **Record what we found out:** Put the four must-records on the board: one fact in own words, audit link, one sentence on pollinators or food webs, one action idea. Food-web sketch stays tucked with the journal — no full redraw. Offer stems (We found that... Our audit showed...) and check conclusions are tied to evidence.
- **Share key facts for our action:** Invite only three or four groups for a 30-second share each (fact + audit link + action). After each, take quick hands-up: did their fact match your audit too? Then harvest whole-class action phrases under three headings: flowers/food, shelter, less disturbance.

What it should show

Groups should land on pollinator decline in Ireland (about one third of wild bees threatened) and simple All-Ireland Pollinator Plan actions that match their audit (e.g. few flowers → wildflower corner). Food webs should start at sun/plants with arrows toward the eater and at least three links. A web with arrows the wrong way or woodlice eating living leaves needs a gentle remodel.

**Misconceptions & interventions**

- **Biodiversity only means rare or exotic animals — worms, daisies and spiders don't count.** — Point back to their audit: everyday worms, spiders, daisies and bees are variety too. Ask which spots held more kinds, not which held the flashiest animal.
- **Food-web arrows point from the hunter toward the prey (who hunts whom).** — Remodel sun → dandelion → caterpillar → robin on the board and say: the arrow shows where the energy goes, so it points to the eater.
- **If we only counted how many animals we saw, that would tell us enough about biodiversity.** — Return to kinds versus totals on their audit: a yard full of one species is not the same as many different living things under the hedge.

Differentiation

Emerging	Developing	Proficient
• Offer a highlighter and stems: One fact is... It links to our audit because... It suggests we could... Pair with the class board fallback list if their audit is thin. • Accept a three-step food web (sun → one plant → one animal) and the four journal bullets as the in-class finish line.	• Push for a clear audit match on Cards B and C, then one starred line from a choice card with a justified action that fits a rich or poor spot they found.	• Use leftover research minutes to rank starred facts and justify which one should drive the class action; add a decomposer path (leaf litter → woodlouse) marked separately from living-plant links.

Cross-curricular hook

Link to Geography's local environment and Irish citizenship — the All-Ireland Pollinator Plan as island-wide action from local evidence.