

Food chains and interdependence

Lesson at a glance

Open with each group's own survey notes and the key question: if aphids vanished, who else might feel it? Model a plant-first chain and arrow direction on the flow-builder interactive, then preview a shared-card join on the desk (two chains meeting at one robin). Groups build two chains from their survey cards, join them into a simple food web, draw the layout on the Investigation Journal drawing page, then turn one card face down and trace knock-on effects linked to Irish hedges, bees and log piles.

Learning objectives

- Build food chains and a simple food web from the group's own survey evidence
- Show how energy passes along a food chain using arrows
- Trace knock-on effects when a link is removed and link this to protecting Irish wildlife

Before the bell – prep

Print and cut one set of species cards plus 8–10 “eaten by” arrow cards per group the day before. Have each group's Part 1 survey notes ready. Open the flow-builder interactive on the IWB. Keep a short length of string aside for rare teacher-only joins.

Materials

Item	Qty	Per	Source	Low-cost substitute
group survey notes from earlier in this project	1	group	classroom	a shared class list of what was found, copied for each group
species cards (grass, daisy, nettle, oak, dandelion, moss, aphid, caterpillar, snail, slug, earthworm, woodlouse, beetle, ladybird, spider, ant, bee, robin, blackbird, thrush, wren, plus blanks)	1	group	provided printable	sticky notes with names written by the teacher before the lesson
arrow cards labelled eaten by	10	group	provided printable	paper strips with a drawn arrow
string for a rare extra web join (teacher only, optional)	2	class	classroom	wool or strips of scrap paper
Investigation Journal pages	1	pupil	provided printable	plain paper with headings drawn by pupils

Safety watch-point

Ordinary classroom care only. No outdoor work in this session. If string is used for a teacher model, keep lengths short so they are not a trip hazard; tidy floor cards promptly.

Teaching moves

- **Getting Started:** Hand out survey notes. Take a quick round of two or three finds and what each seemed to need or eat — do not build chains yet. Plant the key question: if the aphids vanished from our patch, who else might feel it?
- **Energy on the move:** Keep this short. Board only food chain and producer for now. Model the arrow as energy moving to the eater (plant first), not pointing at the food. Hold web and interdependence in everyday language until groups build and remove a link.
- **A finished chain on the board:** On the front desk, lay out grass → caterpillar → spider → robin as a finished chain. Ask which makes its own food and where each arrow points. On the front desk, lay grass → caterpillar → robin and daisy → snail → robin with one shared robin card so both chains touch it. Say: one animal, one card — that joined picture is a food web.
- **Build the chain together:** Switch the interactive to explore mode. Pupils call plant-first order and arrow direction while you drag. Ask what would go wrong if you started with the robin, then elicit one other school-grounds starter plant (daisy, nettle, oak) before groups work.
- **Chains and a web from our survey:** Give survey notes, species cards and arrow cards only — no string for groups. Reveal one job at a time on the board: underline plants; build chain 1; freeze and check plant-first arrows; build chain 2; join on one shared card and name food web. Enforce the evidence rule: survey species only; write likely beside inferred arrows. Stop-build freeze with cards still laid out.
- **Record our food web:** Cards stay down in the table centre as the live reference; journals slide to the edge (or one scribe draws). Pupils use the drawing page: labelled living things, arrows toward eaters, cross-links as extra lines. Prompt: point to where the energy starts; who goes hungry first if this plant disappears?
- **What if we remove a link?:** Every group turns one card face down and talks for about two minutes: who loses food first, who feels it later or in another chain, and one concrete link to a hedge, bees/flower insects or a log pile. Then name interdependence. Two groups share; revoice and push beyond the next animal only. Light results-page note if time — do not block talk for long writing.
- **Make sense and tidy:** Revoice energy from sunlight through chains, webs of dependence, and knock-ons from a removed link. Exit oral only: tell your partner one living thing that depends on another in our web. Collect cards; keep survey notes and journal pages together.

What it should show

Every group should show at least one plant-first chain from survey evidence (floor: one survey chain plus one explained likely link), arrows toward eaters, and a shared-card join where two chains meet. On remove-a-link, expect an immediate food loss plus at least one later or cross-chain knock-on tied to a real hedge, bees or log pile. Odd chains that start with an animal mean arrow/energy direction was reversed — rebuild plant first.

**Misconceptions & interventions**

- **Pupils draw the arrow pointing at the food (“the robin points to the worm”).** — Trace energy from the plant along each arrow to the eater on the board chain. Have them rebuild one card line plant-first and say “energy moves this way” as they place each arrow.
- **“Only the next animal is affected if we remove a link.”** — After they turn a card face down, ask who might feel it later or in the other chain, not only the neighbour. Push for one further knock-on before naming interdependence.
- **Groups invent species that were never in the survey to finish a longer chain.** — Point back to the evidence rule on the board: survey species only; write likely beside an inferred feeding link. Offer the floor of one full survey chain plus one explained school-grounds likely link.

Differentiation

Emerging	Developing	Proficient
• Start with a two-link chain only (plant → eater) using cards that match their notes; teacher table checks plant-first order before a second link. • Floor for thin surveys: one survey chain plus one explained likely school-grounds link marked on the journal page.	• Build a second chain from different survey finds and join on one shared card; write likely beside any inferred arrow.	• Stretch to a four-link chain or two cross-links in the web, then trace a knock-on that reaches another chain and a real Irish habitat feature (hedgerow, flower-visiting insects, log pile).

Cross-curricular hook

Link to Geography/local environment — map knock-ons onto real Irish hedgerows, pollinators and school log piles.