

Food chains and interdependence

Lesson at a glance

Open with each group's own hedge-survey notes and a quick round of finds. Model a desk card chain (grass → caterpillar → spider → robin) and a shared-card join, then check plant-first order and arrow direction on the flow-builder interactive. Groups build two survey-only chains, join them into a simple web with one shared card, draw the web in the Investigation Journal, then turn one card face down and trace knock-on effects linked to protecting Irish wildlife.

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

Before the lesson, print and cut one set of species cards plus 8–10 “eaten by” arrow cards per group; keep a teacher desk set and optional string for rare joins only. Have each group's Part 1 survey notes ready. Open the flow-builder interactive on the IWB for Step 4 only.

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

Teacher cuts card sets before the lesson. Keep string teacher-only so groups do not tie cards into tangles or trip hazards.

Teaching moves

- **Energy on the move:** Keep this short: name food chain and producer on the board only. Model the arrow as energy moving to the eater (plant first). Hold food web and interdependence in plain language until groups build and remove links themselves.
- **A finished chain on the desk:** Lay grass → caterpillar → spider → robin with arrow cards on the front desk. Ask who makes food and who eats whom. Then add a one-minute shared-card join (e.g. daisy → caterpillar → robin meeting at one robin card). Leave the flow-builder closed.
- **Build the chain together:** Open the flow-builder in explore mode with grass, caterpillar, spider, robin unset. Pupils call plant-first order and arrow direction while you drag. Ask what goes wrong if the robin starts the chain, then invite a different school-grounds starter plant.
- **Chains and a web from our survey:** Hand out survey notes, species cards, arrow cards and journals; keep string teacher-only. Reveal one job at a time on the IWB. Freeze ~7 minutes in to check chain 1. Prefer one shared card for a web join. Enforce: only survey species; mark inferred links likely on the journal.
- **Record our food web:** Cards stay visible centre/end of table; journals open only at the edge. Pupils draw labelled living things with arrows toward eaters and any cross-links. Circulate: '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 knock-ons for ~2 minutes. Two groups share; push for a further or sideways effect plus one concrete habitat link (hedgerow, bees, log pile). Then name interdependence. Keep journal writing to a short heading and one knock-on if time.

What it should show

Every stable chain starts with a plant; arrows point to eaters. Webs show one shared species card touching two chains where evidence allows. Thin surveys: one full survey chain plus one justified 'likely' school-grounds link. On remove-a-link, expect immediate hunger for the next eater, possible later/sideways effects, and sometimes more food for prey if a hunter is removed. Odd chains that start with an animal usually reverse the arrows.

Misconceptions & interventions

- **Pupils draw the arrow pointing at the food ('the robin points to the worm').** — Trace the desk model left to right: plant first, arrow toward each eater. Say aloud 'energy moves to the eater' and have them flip any reversed arrow cards.
- **'Only the next animal along 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, and who might have more food if a hunter is gone—then name interdependence.
- **Groups add species they never found so the web 'looks full'.** — Point to the IWB evidence rule: only survey species; any unseen feeding link must be marked likely on the journal page.



Lesson 7

Differentiation

Emerging	Developing	Proficient
• Start with a two-link chain only (plant → eater) using their clearest survey find; teacher table checks plant-first and one arrow before a second link. • Floor for thin surveys: one survey chain plus one justified 'likely' school-grounds link marked on the journal.	• Build a 3–4 link chain, then a second chain from different finds and join at one shared card. • On remove-a-link, name one immediate and one further or sideways knock-on before the class share.	• Stretch to a four-link chain or two cross-links in the web, still survey-only with likely marked where inferred. • Critique another group's web for arrow direction and missing producers, or propose which single habitat change would hit their real patch hardest.

Cross-curricular hook

Link to Geography and Irish habitats — hedgerows, pollinators and log piles as real protection choices for the school patch.

