

## living-things

# Change a habitat: what happens?

## Lesson at a glance

Open with a thick Irish hedgerow cut away for a wider field edge and take quick hands-up guesses about who feels the change first. Groups study the printed hedgerow food web on the Investigation Journal page, predict first and later losses, then read before-and-after count cards. Class enters the six card rows into the data-recorder interactive and compares the after bars. Groups trace knock-on chains on the web, record prediction-evidence-conclusion, and agree one practical action for the school patch.

## Learning objectives

- Predict which living things will drop when a hedgerow is removed, check the counts, and use the food web to explain a likely knock-on order
- Explain that changing one thing in a habitat can send knock-on effects through the food web
- Agree one practical change the class could make to support living things in its own patch

## Before the bell: prep

Print one full set of six before-and-after count cards per group the day before. Hand Investigation Journal pages out before the bell so the hedgerow food web is already in front of every group. Cue the data-recorder interactive on the IWB (or draw a two-column before/after table if the interactive is down).

## Materials

| Item                                                                                                                          | Qty | Per   | Source                | Low-cost substitute                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------|-----|-------|-----------------------|------------------------------------------------------------------------------------------------|
| before-and-after count cards<br>(hedge plants, bees, butterflies,<br>small birds, caterpillars and aphids,<br>hedgerow signs) | 1   | group | provided<br>printable | write the six before-and-<br>after pairs on the board for<br>shared reading                    |
| Investigation Journal page                                                                                                    | 1   | pupil | provided<br>printable | plain paper with headings<br>What I predicted, What the<br>numbers showed, What I<br>think now |

## Safety watch-point

Indoor card and discussion lesson; no outdoor hazards in this sitting. If any natural materials from earlier project work are handled again, wash hands afterwards.



### Teaching moves

- **Getting Started:** Keep five minutes as pure curiosity. Invite three or four hands-up guesses about who feels the hedge removal soonest; leave disagreement unresolved. Do not hand out cards or open the data interactive yet.
- **Question and predict:** Point groups at the food web already printed on the Investigation Journal page. Push stems in order: 'I think \_\_\_\_ will feel it first because \_\_\_\_' then 'I think \_\_\_\_ might feel it later because \_\_\_\_'. If anyone says only the plants go and the rest are fine, ask what ate the plants and what ate those animals.
- **Read the count cards:** Give one full card set per group. Circulate with 'What does the card show, not what do you wish it showed?' Watch for groups separating observation (bees 32→7) from inference (lost food and shelter).
- **Chart the before and after counts:** Drive the data-recorder on the IWB: hedge plants 14/0, bees 32/7, butterflies 18/4, small birds 9/2, caterpillars and aphids 45/12, hedgehog signs 3/0. Bars show After counts: ask which are shortest and whether the chart alone tells the full story without the Before column.
- **Trace the knock-on effects:** If groups stall, model one chain aloud once: plants → flower visitors → plant-feeders → birds and hedgehog shelter. Keep the worked pond example as the shape of a knock-on, not the hedge answer. When one group shares, ask the class whether they agree with that order and what they would put first.
- **Record on your Investigation Journal page:** Oral rehearsal first: prediction, two count facts, one conclusion sentence that links a change in one living thing to another. Fast finishers add a second knock-on chain or a question for the school patch: still on paper.
- **One change for our patch:** Run the fixed seven-minute sequence: groups three minutes on one realistic idea and who it helps first; share two minutes capturing up to three board ideas; class two minutes voting one action to carry forward. Prompt caretaker or principal if needed.

### What it should show

Biggest first loss is the plants (14→0). Flower-visitors and plant-feeders drop next (bees 32→7, butterflies 18→4, caterpillars/aphids 45→12); small birds and hedgehog signs fall as food and shelter go. Exact order is debatable: cards show who dropped, not a timed sequence. A group that treats every drop as simultaneous has skipped the food-web links; send them back to the arrows.



## Misconceptions & interventions

- **Only the plants disappear: the bees, birds and hedgehog are fine because they can just go somewhere else.** Point at the after numbers on the cards and the arrows on the journal web: 'What ate the plants? What ate those animals?' Push one short chain aloud until they name a second living thing that loses food or shelter.
- **The shortest after-bar means that living thing felt the change first.** Remind them the chart shows how low each count fell, not the order in time. Send them back to the web: plants were removed, so plant-feeders and flower-visitors are the likely early links.
- **A knock-on effect is just 'everything dies' when the hedge goes.** Hold up one card pair and one arrow only. Ask for a single because-sentence (plants gone → bees lose flowers) before they add the next link.

## Differentiation

| Emerging                                                                                                                                                                                                                                                                                                                                                                       | Developing                                                                                                                                                                                                                                                                                                  | Proficient                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Sit with the teacher table and oral-rehearse one prediction stem plus two card facts before writing; allow pointing at the printed web arrows instead of naming every link.</li> <li>• Offer a partly-filled journal frame: prediction cloze and two count blanks already labelled with living-thing names from the cards.</li> </ul> | <ul style="list-style-type: none"> <li>• After the main chain, add a second knock-on from the same starting card (e.g. plants → caterpillars → birds) and say which card numbers support it.</li> <li>• Prompt: does the chart alone tell the full story, or do we still need the Before column?</li> </ul> | <ul style="list-style-type: none"> <li>• Critique the class order: could birds drop partly because insects dropped, not only because nest cover went? Cite card numbers for both routes.</li> <li>• Stretch the school-patch action: name who it helps first on the web and one thing that could go wrong.</li> </ul> |

## Cross-curricular hook

Tie to Maths Data: pupils compare before/after counts and read the shortest after-bars on the class chart.