Lesson 7

living-things

A branching key for Irish plants and trees

Lesson at a glance

Hold up five unnamed Irish school-ground leaves and ask how you would tell a friend which is which without pointing. Groups examine oak, holly, dandelion, daisy and fern with hand magnifiers and note one clear feature each in the Investigation Journal. Drive the sorting-tree interactive to complete a four-question yes/no class key, then each group keys out a mystery leaf and explains its path in a display-only talk.

Learning objectives

- Complete a class yes/no branching key that separates several school-ground leaves
- Use the key to identify a mystery leaf
- Explain how a branching key works step by step

Before the bell — prep

Day before: collect safe oak, holly, dandelion, daisy and fern leaves or print the laminated leaf cards (one set per group). Ready hand magnifiers, envelopes for mystery leaves, and check allergies. Mark a known holly sample so groups do not pick unknown spiky plants.

Materials

Item	Qty	Per	Source	Low-cost substitute
leaf samples or laminated leaf cards (oak, holly, dandelion, daisy, fern)	1	group	outdoors	clear photos of the five leaves printed on paper
hand magnifier	1	group	school kit	look closely without a magnifier
mystery leaf envelopes or face-down cards	1	group	classroom	teacher hands out one mystery leaf at a time from a tray
Investigation Journal page	1	pupil	classroom	plain paper ruled into a simple grid

Safety watch-point

Do not pick unknown plants; mind holly prickles; wash hands after handling living material.

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Teaching moves

- **What is a branching key?:** Teach branching key, feature and identify in one short pass from the board text only. Hold the colour-versus-edge debate until after the leaf look so pupils can point at real edges.
- **Collect and notice leaf features:** Give each group the five leaves and magnifiers. Circulate with prompts: smooth or jagged edge? One piece or many small parts? Prickly? After they look, revoice that shape and edge stay steadier than colour for yes/no questions.
- **Build the branching key together:** Run the sorting-tree interactive in explore mode. Model the full path aloud: prickly → holly; many leaflets → fern; deep wavy lobes → oak; deeply jagged → dandelion; else daisy. Invite yes/no calls, then have pupils copy the four questions and end names into the Investigation Journal.
- **Key out a mystery leaf:** Hand each group one mystery leaf face-down. Prompt predict, then follow each yes/no step in order. If two groups disagree, walk both paths on the board and find where a feature was misread.
- **Make sense of our keys:** Display-only talk: two or three groups walk their path while you trace it on the IWB. Draw out that a good first question splits cleanly, order matters, and colour alone is a weak clue.

What it should show

Correct key path: prickly = holly; many small leaflets = fern; deep wavy lobes = oak; deeply jagged/toothed = dandelion; remaining smooth spoon-shaped = daisy. Most groups name the mystery leaf if they stick to the order. Odd results usually come from calling dandelion's jagged edge prickly or missing oak's deep lobes — re-check the real leaf against that question.

Misconceptions & interventions

- **Any difference will do — pupils want to start the key with colour or size.** — Hold two leaves and ask which clue still works in autumn after a dry week. Steer them back to edge and shape as fairer yes/no features.
- **Pupils treat the key as guessing rather than an ordered path.** — Trace one leaf through every question on the sorting-tree interactive and stop at each fork: only a clear yes or no moves you on until one name is left.
- **Dandelion's deep jagged teeth get called prickly, so it is sent down the holly path.** — Let them feel holly's stiff prickles beside dandelion's soft teeth. Re-ask: does it actually prick, or is the edge only jagged?

Differentiation

Emerging	Developing	Proficient
• Sit with the group for the first yes/no on the mystery leaf and offer board sentence starters: The edge is... The shape is...	• Ask for a second clear feature on each leaf during the magnifier look, still using only edge, shape or how it is divided.	• Invent one extra yes/no question that would still separate oak from dandelion, and say why it splits cleanly.

Cross-curricular hook

Link to Irish natural history — field guides and naturalists still use step-by-step feature questions to name plants.