

## living-things

# A branching key for Irish plants and trees

## Lesson at a glance

Open by holding up five unnamed Irish leaves (oak, holly, dandelion, daisy, fern) and asking how you would tell a friend which is which without pointing. Model the shape of a branching key on the board with a pencil-case sort, then groups hunt leaf features with hand magnifiers. Drive the sorting-tree interactive to build a class yes/no key, record it in the Investigation Journal, and key out a mystery leaf. Close with a display-only talk on what makes a fair first question.

## 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: gather or print one set of five leaf cards per group (oak, holly, dandelion, daisy, fern) and hand magnifiers. Bag one mystery leaf per group face-down. Check allergies and safe school-garden spots; keep holly samples provided only.

## Materials

| Item                                                                      | Qty | Per   | Source             | Low-cost substitute                                      |
|---------------------------------------------------------------------------|-----|-------|--------------------|----------------------------------------------------------|
| leaf samples or laminated leaf cards (oak, holly, dandelion, daisy, fern) | 1   | group | provided printable | 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 | provided printable | plain paper ruled into a simple grid                     |

## Safety watch-point

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

**Teaching moves**

- **What is a branching key?:** Six minutes on the board only — do not show the leaf key yet. Walk the pencil-case yes/no path aloud and write the two rules: every question splits the pile in two, and every path ends on a name. If they finish fast, ask for a third question that separates pencil from scissors.
- **Collect and notice leaf features:** Outdoors briefly or at tables with the five leaves and magnifiers. Circulate prompting edge, shape and prickliness — not colour. After looking, revoice that shape and edge stay steadier than colour for key questions.
- **Build the branching key together:** Drive the sorting-tree interactive in explore mode. Invite yes/no calls for each leaf along the four questions; name the leaf only after it lands in a feature box. Model one full path aloud, then have pupils copy the four questions and end-point leaf names into the Investigation Journal. Run two or three oral checks so every leaf has one clear end.
- **Key out a mystery leaf:** Give each group a face-down mystery leaf from the same five. Prompt predict → follow each yes/no in order → land on one name and check it against the leaf. If two groups disagree, walk both paths on the board and find the misread feature.
- **Make sense of our keys:** Invite two or three groups to walk their mystery path while you trace it on the IWB key. Draw out: good questions use features everyone sees the same way; strong splits first; colour alone is weak because it changes.
- **Reflect and tidy:** Pairs finish aloud: 'A branching key works by...' Listen for yes-or-no questions, features, step by step, ends with a name. Return leaves and magnifiers; wash hands if plants were handled.

**What it should show**

Correct paths: prickly → holly; many small leaflets → fern; deep wavy lobes → oak; deeply jagged/toothed → dandelion; smooth plain edge → daisy. Most groups name the mystery leaf if they stick to the key. Common slip: calling dandelion's jagged edge prickly, or missing oak's lobes — re-walk that question on the real leaf.

**Misconceptions & interventions**

- **'Colour is a good first question — the green one is...'** — Hold two leaves and note colour can shift in autumn or after a dry week. Ask which feature stays the same, then steer them back to edge and shape on the class key.
- **'A branching key is just guessing the name.'** — Trace one full path on the sorting-tree interactive: each yes/no must match a feature you can see, and the path ends on one name only when the pile is split cleanly.
- **Pupils answer questions out of order or skip to a name they already think they know.** — Cover the end boxes and insist on question 1 first. Ask: 'What would happen if we started with a weak question?' then re-run from the top.

**Differentiation**

| Emerging                                                                                                                                                                             | Developing                                                                                                                                                                            | Proficient                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Sentence starters on the board (The edge is... The shape is...) and sit with the group for the first yes/no on the mystery leaf.</li> </ul> | <ul style="list-style-type: none"> <li>• Prompt a second visible feature for each leaf during the notice step; ask which question they answered first on the mystery path.</li> </ul> | <ul style="list-style-type: none"> <li>• Invent one extra yes/no question that would still separate oak from dandelion; critique why colour alone would make the key unfair.</li> </ul> |

**Cross-curricular hook**

Link to Maths sorting and tree diagrams — each yes/no split is a decision branch until one leaf remains.