

materials

Materials in everyday Irish life

Lesson at a glance

Open by holding up a glass jar, wool scrap, peat-free compost bag and plant-based fork and asking where each came from and where it should go next. Groups handle sealed sample trays, then jigsaw four research cards (glass, wool, peat-free compost, bioplastics) into short source-use-end-of-life phrases. They fill the Investigation Journal Comparison Table, weigh trade-offs, and pitch one sustainable swap for school or home with two evidence reasons and one honest downside.

Learning objectives

- Research source and end-of-life for everyday materials used in Irish life
- Compare materials on a table of source, use and end of life
- Make and present a reasoned case for one more sustainable material swap

Before the bell – prep

Night before: print one full set of the four research cards per group (exact card texts in the research step). Pack one tray per group: intact clean jar, wool scrap, sealed pinch of peat-free compost, plant-based fork. Put highlighters and three-box sticky notes (source / use / end of life) on every desk.

**Materials**

Item	Qty	Per	Source	Low-cost substitute
research cards (glass, wool, peat-free compost, bioplastics)	1	group	provided printable	one shared class set on the IWB if printing is limited, with groups taking turns to read
clean glass jar or bottle (sample)	1	group	classroom	clear photo of a glass jar on the IWB if glass samples are limited
scrap of wool or wool garment	1	group	brought from home	photo of a wool jumper on the IWB if wool samples are limited
peat-free compost sample in a sealed bag	1	group	supermarket	photo of a peat-free compost bag label on the IWB if samples are limited
plant-based or compostable fork or bag (bioplastic sample)	1	group	supermarket	photo of packaging that states plant-based or compostable
highlighters and three-box sticky notes (source / use / end of life)	1	pupil	classroom	fold a scrap of paper into three labelled boxes if sticky notes are short
Investigation Journal Comparison Table page	1	pupil	provided printable	ruled paper with teacher-directed headings said aloud only if the journal page is unavailable

Safety watch-point

Intact jars only—no broken glass. Keep compost sealed on the tray; dry property compare only; no tasting; wash hands after handling.

Teaching moves

- **Getting Started:** Hold up only the four real items (or photos). Take three or four hands-up ideas on source or next destination; do not correct yet. Keep sample trays closed until the research step.
- **From source to end of life:** Board only source and end of life for about six minutes, pointing at the jar and the fork. Park sustainable swap and trade-off until the weigh step. Take two or three lunch-packaging answers, then move straight into research.
- **Handle, then research the materials:** Two minutes dry property compare (heaviest / bends / softest)—no water, compost stays sealed. Model one Glass row on the board: source, use, end of life, plus the heavy-to-transport watch-out. Ten minutes jigsaw: each pupil one card, three sticky-note phrases, underline one watch-out. In groups of three, a confident reader briefly covers Card D. Circulate asking for source, use, end of life and the underlined line.
- **Compare on your journal page:** Pupils fill source, use and end of life for all four materials on the Comparison Table only—short phrases they could say aloud, not copied paragraphs. Early finishers draft one stem: We would swap X for Y because... using two table facts.
- **Weigh the trade-offs:** Pin sustainable swap and trade-off to the watch-out lines already underlined. Surface only the agreed pairings on the board: peat→peat-free; single-use oil-based cutlery/packaging→reusable glass or careful bioplastic; synthetic warm layer→wool. Groups pick one and must still do the job, help an Irish place or system, and name what goes wrong if disposal is poor.
- **Pitch your swap:** Pair-of-groups: 45 seconds each way—swap, who it helps, two evidence reasons, one trade-off. Then three whole-class pitches of about one minute, chosen for different swap types (garden, packaging, clothing). Listeners check: Did their reasons come from source, use or end of life? Capture two or three strong swaps on the IWB.
- **What we take away:** Keep it oral and short. Revoice two pitches that used clear evidence language. Check pupils can name source and end of life for two materials and state one reasoned swap with a trade-off. Pack cards and samples; wipe tables; wash hands.

What it should show

Journal rows should read roughly: glass—minerals melted→jars/bottles→recycle if clean; wool—sheep→warm textiles→reuse then biodegrade; peat-free—green waste/wood/coir→growing media→becomes soil; bioplastics—plant feedstocks→cutlery/packaging→often needs industrial composting, not “leave outside.” A strong pitch names from→to, two card facts, and one real trade-off. Odd rows usually come from copying whole paragraphs or treating bog protection as the compost’s end of life.



Misconceptions & interventions

- **Natural always means harmless—so wool or peat must be the green choice.** — Point back to Card C: peat is natural but digging bogs releases stored carbon and harms wildlife. Ask which Irish place the swap protects, not whether the material grew on a farm.
- **Plant-based means the fork will just vanish if we leave it outdoors or in the home compost.** — Re-read Card D's end-of-life line together: many bioplastics need industrial composting and spoil recycling if binned wrong. Underline that watch-out as the trade-off.
- **The winning material must beat every other material on every measure.** — Remind them engineers pick the best fit for a job with eyes open. Have the group name the job first, then one downside they still accept.



Differentiation

Emerging	Developing	Proficient
• Pair for teach-back if the card reading load still bites; sticky-note boxes and highlighter stay the default scaffold for every pupil. • Prefer a confident reader takes Card D (bioplastics) so a weaker reader is not left alone with the densest card.	• Prompt: which claim on your card is a fact, and which is a value judgement about what we should do? • Early finishers draft the spoken stem We would swap X for Y because... with two table facts only.	• Require the pitch to name who or which Irish system benefits (bog, farm, recycling stream) plus one disposal failure mode. • Challenge: critique another group's pitch—did both reasons come from the cards, and was the trade-off honest?



Cross-curricular hook

Link to Geography: Irish peat bogs as carbon stores and wildlife habitats, and why peat-free choices matter locally.

