

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 the four samples, then each pupil reads one research card and teaches source, use and end of life back in short phrases. They fill the Comparison Table in the Investigation Journal, weigh trade-offs on agreed from→to pairings, and pitch one reasoned sustainable swap with an 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

Print one full set of the four research cards (Glass, Wool, Peat-free compost, Bioplastics) per group the day before. Pack one tray per group: intact clean jar, wool scrap, sealed pinch of peat-free compost, plant-based fork. Ready highlighters and three-box sticky notes (source / use / end of life) for every pupil.

**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, never broken glass. Keep compost sealed on the tray, no tasting, dry property compare only. Pupils wash hands after handling samples.

Teaching moves

- **Getting Started:** Hold up only the four familiar items or their photos. Take three or four quick guesses on source or end of life and leave them uncorrected: they become useful later when the cards confirm or overturn them. Keep sample trays closed until the research step so attention stays on you.
- **From source to end of life:** Pin only source and end of life on the board for about six minutes, linking each to the real jar or fork. Save sustainable swap and trade-off for later. Take two or three lunch-packaging answers, then move straight into research without modelling a full row yet.
- **Handle, then research the materials:** Two minutes dry property compare (heaviest / bends / softest), compost stays sealed. Model one Glass row on the board: source, use, end of life, plus the watch-out line. Ten minutes card reading and teach-back with sticky-note boxes; circulate asking for short phrases and the underlined watch-out. Groups of three get a timed second-card hand-off: steer a confident reader to Card D. Finish with four minutes of class sharing so every material is heard.
- **Compare on your journal page:** Pupils record source, use and end of life for all four materials on the Comparison Table page only: no second layout on the board. Push short speakable phrases, not whole paragraphs. Early finishers draft one stem only: We would swap X for Y because...
- **Weigh the trade-offs:** Name sustainable swap and trade-off now, linking trade-off to the underlined watch-out lines. Write the three agreed pairings on the board (peat→peat-free; single-use oil-based→glass or careful bioplastic; synthetic warm layer→wool). Groups pick one and must still do the job, help an Irish place or system, and admit what could go wrong.
- **Pitch your swap:** Three minutes pair-of-groups exchange (45 seconds each way), then three whole-class pitches of about one minute, chosen for different swap types and clear trade-off language. Listeners check whether reasons came from source, use or end of life. Leave the strongest swaps on the board for the close.
- **What we take away:** Keep it oral and short. Revoice two evidence-rich pitches, then ask which Irish place or system (bog, farm, recycling stream) the class evidence protects. Pack cards and samples; wipe tables; wash hands.

What it should show

Journal rows should read roughly like this. Glass: mineral mix melted → bottles/jars → recycle repeatedly if clean; wool: sheep fleece → warm textiles → long use then biodegrade/reuse; peat-free: green waste/wood/coir → growing media → becomes soil; bioplastics: plant feedstocks → packaging/cutlery → often needs industrial composting, not left outdoors. A strong pitch names from→to, who it helps, two card facts and one honest trade-off. Odd rows usually mean whole paragraphs copied or peat bog protection written as the compost's end of life.



Misconceptions & interventions

- **Natural always means harmless: peat is natural so digging it must be fine.** Point back to Card C: peat bogs store carbon and take thousands of years to form. Ask whether taking something natural can still harm an Irish place.
- **Plant-based means it vanishes if you leave it outside or put it in any bin.** Reread Card D's end-of-life line together: many bioplastics need industrial composting and spoil recycling if mis-sorted. Underline that disposal system matters.
- **The winning material has to beat every other on every measure.** Reframe with the job: engineers pick the best fit for keeping food fresh, keeping someone warm or growing seedlings, with eyes open to trade-offs, not a single magic winner.



Differentiation

Emerging	Developing	Proficient
• Pair for the teach-back if the card reading load is still heavy; the three-box sticky note and highlighter are already the default scaffold for every pupil.	• Prompt groups to name which claim on a card is a fact and which is a value judgement about what we should do.	• Early finishers draft a spoken swap stem using two table facts, then critique whether a peer pitch still does the job and names a real trade-off.



Cross-curricular hook

Link to Geography: Irish peat bogs as carbon stores and wildlife habitats under pressure from extraction.