

Natural versus manufactured



Lesson at a glance

Open by holding a wooden spoon beside a plastic spoon and asking which grew in nature and which people made. Teach the natural / manufactured / raw-material table, then groups sort an 8–10 sample tray into two piles with a not-sure heap for debates. Drive the sorting-tree interactive through six awkward edge cases, then each group traces one sample with a research card before recording a two-group list and one origin story in the Investigation Journal.

Learning objectives

- Sort materials into natural and manufactured and give an example of each
- Trace where a common material comes from and how it was changed for use

Before the bell: prep

Print the six research cards (Wood, Wool, Paper, Plastic, Glass, Aluminium) the day before. Build one tray per group: lolly stick, raw wool or cotton fibre, stone or shell, leaf or cork, paper, plastic lid, foil, smooth glass marble or jar lid, rubber band, polyester scrap. Cover trays until the sort. Wooden and plastic spoons ready for the hook.

Materials

Item	Qty	Per	Source	Low-cost substitute
material sample tray set (wood, wool or cotton fibre, stone or shell, leaf or cork, paper, plastic lid, foil, smooth glass piece, rubber band (finished), polyester fabric scrap)	1	group	classroom	ask pupils to bring clean safe oddments from home the day before; teacher checks and sorts
wooden spoon and plastic spoon for the hook	1	class	classroom	any wooden object and any plastic object
material research cards (wood, wool, paper, plastic, glass, aluminium)	1	group	provided printable	teacher reads one card aloud to each group from the lesson notes
Investigation Journal page	1	pupil	provided printable	plain paper with two headed groups drawn by the pupil



Safety watch-point

Glass samples only if smooth and fully supervised: no broken glass. Wipe dusty tables after sorting; return all samples to trays.



Teaching moves

- **Getting Started:** Hold up the wooden spoon and plastic spoon side by side. Collect two or three quick ideas only. Do not define natural or manufactured yet. End on the key question: how could we sort a whole tray into from-nature versus made-by-people?
- **Natural or manufactured?:** Teach the two sorting groups from the board table first; bring in raw material only with the cotton T-shirt edge case. Model aloud with a lolly stick (natural: grain, only cut and shaped) then a clear plastic cup (oil changed in a factory: manufactured).
- **Sort the materials:** Uncover trays. Circulate asking 'Where did this start? What did people do to it?' Do not correct every placement yet: save debate for the board. Early finishers name the likely raw material of one manufactured item.
- **The awkward middle:** Open the sorting tree interactive on the IWB and drive it yourself. Do not run a second clean sort. For each of the six, listen for 'it started as X and people did Y'. Accept either pile when the reason is good; polyester is the only one manufactured all the way down.
- **Trace where it comes from:** Give each group one tray sample plus its matching research card. Pupils predict origin from the sample first, then read the card to check. Halfway prompt: what did people do that nature did not, and which step changed it most? Prepare-to-share only: no journal yet.
- **Record in your journal:** Keep the Investigation Journal light: a short natural / manufactured list plus one origin story for the researched material only. Put sentence starters on the board: It started as... People changed it by... We sorted it as... because...
- **Make sense together:** Hear two or three groups only. Echo each answer back in lesson language: natural, manufactured, raw material, most important change. If someone calls paper natural because trees are, ask what people had to do to the wood. Link briefly to recycling and material choice in Ireland.



What it should show

Expect clean natural piles for wood, stone/shell, leaf/cork and raw wool/cotton fibre; manufactured for paper, plastic, foil, glass, rubber band and polyester. Edge-case debate should surface the chain (started as X, people did Y). Polyester is the only sample manufactured all the way down. A group calling paper natural usually stopped at 'comes from trees'. Push the pulp-and-press step.





Misconceptions & interventions

- **Anything soft or brown is natural; anything shiny is manufactured.** Hold up the cotton shirt or paper sample. Ask where it started, then what people did: spinning, dyeing, pulping. Soft/ brown can still be manufactured once heavily changed.
- **Paper is natural because it comes from trees.** Ask the class what people had to do to the wood. Name the pulp, press and dry steps; once wood is changed that far, paper counts as manufactured from a natural raw material.
- **A finished cotton shirt or woollen jumper is still natural because the fibre grew on a plant or sheep.** Separate raw fibre on the tray from finished cloth. The fibre starts natural; spinning, dyeing and sewing move the finished item toward manufactured.

Differentiation

Emerging	Developing	Proficient
• Seat at the teacher table with sentence starters on the board and a pre-sorted pair (one clear natural, one clear manufactured) as a reference before they place their own samples. • Journal support: fill the two-group list with three named samples only; oral origin sentence before writing.	• After the tray sort, name the raw material of one manufactured item already on the tray. • On the research card, underline the single change step the group thinks mattered most before sharing.	• Argue one awkward-middle sample either way with a full started-as-X / people-did-Y chain, then defend the pile choice to another group. • Add a second manufactured classroom object (not on the tray) and name only its likely raw material.

Cross-curricular hook

Link to Geography’s natural resources: Irish woodlands, sheep farms and sand as the starting places of everyday materials.