

materials

Natural versus manufactured



Lesson at a glance

Open by holding up a wooden spoon and a plastic spoon and asking which grew in nature and which people made. Teach natural, manufactured and raw material, then groups sort an 8–10 sample tray into two piles (with a not-sure pile). Drive the sorting-tree interactive on the IWB to agree class placements, then each group traces one sample with a research card. Pupils record a short two-group list plus one origin story in the Investigation Journal before a share on recycling and where stuff starts.

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

Day before: pack one tray per group (wood/lolly stick, raw wool or cotton fibre, stone/shell, leaf/cork, paper, plastic lid, foil, smooth glass marble or jar lid, rubber band, polyester scrap) and print Cards A–F. Keep trays covered until the sort. Have a wooden spoon and a plastic spoon 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, steel)	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

Use only smooth glass samples (marble or clean jar lid) under supervision — no broken glass. Wipe dusty tables after tidy-up.



Teaching moves

- **Getting Started:** Hold up the wooden and plastic spoons side by side. Take only two or three quick ideas — do not define the terms yet. Leave them with the key question: how could we sort a whole tray into from-nature versus made-by-people?
- **Natural or manufactured?:** Teach the two piles first from the board table, then bring in raw material with the cotton T-shirt edge case. Model aloud with a wooden lolly stick (natural — grain, cut and shaped only) and a clear plastic cup (manufactured from oil in a factory) before groups touch trays.
- **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 a likely raw material for one manufactured item. Watch for origin language, not only look-and-feel.
- **Sort on the board:** Drive the sorting-tree interactive: drag wood, wool, stone, cotton, paper, plastic, glass, steel, rubber and polyester into natural or manufactured using 'Did this come straight from nature, or did people make or heavily change it?' Agree natural = wood, wool, stone, cotton; manufactured = the rest. Finish with three or four thumbs-up checks (plastic, wool, paper, stone).
- **Trace where it comes from:** Give each group one sample plus its matching research card. Insist they predict origin from the sample alone before reading. At halfway, check they have a 'most important change' ready in three short sentences for the class share — journal writing waits until the next step.
- **Record in your journal:** Keep recording light: a few items under natural and manufactured, then the researched material only (started as... / people changed it by... / we sorted it as... because...). Put the sentence starters on the board. Do not re-sort the whole tray on paper.
- **Make sense together:** Hear two or three groups only. Revoice natural vs manufactured and raw material → finished object. If someone calls paper natural because trees are, ask what people had to do to the wood. Link plastic lids and wool to recycling choices in Ireland, then tidy samples back onto trays.



What it should show

Agreed sort: natural — wood, wool, stone, cotton (and raw fibre, leaf, shell); manufactured — paper, plastic, glass, steel, rubber band, polyester, foil. Groups should name a clear raw material and one big human change (e.g. wood pulp pressed into paper; oil turned into plastic pellets). Odd placements usually come from judging by colour or softness, or calling paper natural because it began as a tree — redirect to how heavily people changed it.





Misconceptions & interventions

- **Anything soft or brown is natural; anything shiny is manufactured.** — Hold up foil or a glass marble beside a smooth stone and a wool scrap. Ask ‘Where did each start?’ and sort by origin and how much people changed it, not by look or feel.
- **Paper is natural because it comes from trees.** — Point to the wood sample and the paper sample together. Ask what people had to do to the wood (pulp, press, dry) that nature did not do alone — that heavy change makes paper manufactured.
- **A cotton T-shirt is fully natural because cotton grows on a plant.** — Separate raw cotton fibre (natural) from finished cloth. Trace spun, dyed and sewn steps: the raw material is natural; the finished shirt is manufactured from it.

Differentiation

Emerging	Developing	Proficient
• Pair at the teacher table with two pre-sorted anchor examples (lolly stick = natural, plastic lid = manufactured) and use the board sentence starters for the journal origin line. • Limit their tray talk to four clearly contrasting samples before they join the class board sort.	• After the tray sort, ask them to pick one manufactured item and name its likely raw material before the interactive. • On the research card, prompt: ‘Which single step changed it the most?’	• Critique an edge case (finished rubber band or dyed cotton cloth) and justify manufactured using raw-material language. • Add a second classroom object on the journal page and name only its raw material.

Cross-curricular hook

Link to Geography and Irish farming — sheep shearing and woodland timber as everyday raw materials behind classroom objects.