

materials

Natural and synthetic materials

Lesson at a glance

Open by holding a wooden spoon beside a plastic spoon and asking which came from nature. Teach natural versus made-by-people, then groups sort a tray (wood, cotton, stone, wool, paper, rubber band, plastic lid, polyester, foam) into two labelled hoops. Introduce mixed objects through a short room hunt, drive the sorting-tree interactive on five tricky cards, and pupils record agreed sorts plus one mixed find on the Investigation Journal page.

Learning objectives

- Distinguish natural materials from synthetic materials made by people
- Trace everyday materials back to where they came from and notice mixed objects

Before the bell – prep

Day before: print one Investigation Journal page per pupil. Per group set a tray with wooden lolly stick, cotton scrap, pebble, wool scrap, paper scrap, plastic bottle lid, polyester scrap, foam packing, rubber band, plus two hoops labelled Natural and Made by people. Seed origin lines for foam, rubber band, paper and polyester before groups start.

**Materials**

Item	Qty	Per	Source	Low-cost substitute
materials sorting tray (wood stick, cotton, stone, wool, paper, plastic lid, polyester scrap, foam, rubber band)	1	group	classroom	six clear items only: stick, stone, paper, plastic lid, fabric scrap, rubber band
labelled sorting hoops (Natural / Made by people)	2	group	classroom	two sheets of paper labelled Natural and Made by people
wooden spoon and plastic spoon (hook pair)	1	class	classroom	any clear natural/ synthetic pair such as a pebble and a bottle lid
Investigation Journal page	1	pupil	provided printable	plain paper folded into two labelled columns
word cards (wood, wool, cotton, stone, paper, plastic, polyester, foam, rubber)	1	group	provided printable	write the words on the board for copying
school pencil (shared mixed-object talk)	1	class	classroom	any clear mixed classroom object such as a book with a plastic cover

Safety watch-point

No materials in mouths. Wash hands after tray work if any stones or scraps are dusty or from outdoors.



Teaching moves

- **Getting Started:** Hold up the wooden and plastic spoons only. One quick show of hands on which grew or came from nature and which people made. Keep trays out of sight and do not open the full vocabulary table yet.
- **Natural or made by people?:** Teach only natural versus made by people with the spoons still in hand. Say synthetic yourself always paired with made by people. Model aloud with a lolly stick then a plastic lid before groups touch anything; leave mixed object until the room hunt.
- **Sort the materials tray:** Keep prompts on origin: plant, animal, ground, or people made it. Do not rush disputed items. Preferred sort: wood, cotton, stone, wool, paper, rubber band → natural; plastic lid, polyester, foam → synthetic. Accept synthetic rubber only if a pupil gives an oil-origin reason.
- **Trace where it came from:** Keep groups at trays first, then a short room hunt (pencil, book, jumper with plastic zip, scissors with plastic handles). Prompt: name the wooden part and the plastic part. If a group calls an all-plastic object mixed, ask them to name both materials out loud.
- **Check the tricky ones:** Open the sorting-tree interactive in explore mode and drive five cards only: paper, polyester, glass, rubber band, foam. Push for the reason, not the label. Praise I don't know plus where would we look to find out.
- **Record on your journal page:** Pupils write agreed class sorts, not a fresh third sort. Word cards on the table for writers. Check one mixed-object line per pupil naming both materials.
- **Mixed materials around us:** Anchor on one shared pencil first: which part is strong, which is soft, what job each does. Revoice wood for strength and rubber for rubbing out, then invite a second room-hunt find.



What it should show

Expect wood stick, cotton, stone, wool, paper and rubber band in natural; plastic lid, polyester and foam in synthetic. Paper and glass often surprise (trees; sand). A group calling fleece natural or silk synthetic is sorting by look not origin — rest to where it came from. Mixed finds should name both parts (e.g. wood body and rubber tip on a pencil).



Misconceptions & interventions

- **Anything soft or brown is natural, and anything shiny is synthetic.** — Pass soft fleece beside wool and shiny silk or a smooth pebble. Ask where each came from, not how it looks or feels.
- **Paper and cotton are synthetic because people cleaned or pressed them in a factory.** — Hold the paper scrap: it still came from trees. Factory finishing does not make a material synthetic — origin does.
- **A mixed object means any two different-looking pieces, even both plastic.** — Ask them to name both materials out loud. If both are made by people, it is not mixed natural-and-synthetic.



**Differentiation**

Emerging	Developing	Proficient
• Start with four clear items only: wood stick, stone, plastic lid, polyester. Offer word cards (wood, wool, cotton, stone, paper, plastic) for the journal line.	• After the two-hoop sort, name both materials in one room-hunt mixed object (pencil or book) before writing.	• Add a second mixed object on the journal page and say what job each material does (strength, grip, softness).

**Cross-curricular hook**

Link to Geography natural environments — wood, wool and stone tie materials back to Irish plants, animals and the ground.

