

materials

Describing materials: their properties



Lesson at a glance

Open by feeling a jumper and the table top, then name properties as science describing words. Model with a clear plastic wallet: bend it and look through it. Groups share a tray of six samples, try the class bend test, and sort into bendy / not bendy hoops. Recap on the sorting-tree interactive, then record material plus bendy or not bendy on the Investigation Journal. Close with partner talk on why a window is see-through and a wall is not.

Learning objectives

- Use property words such as hard, soft, bendy, see-through, rough and smooth
- Group materials by one property (bendy or not bendy) and record the groups

Before the bell – prep

Night before, pack one identical tray per group: wooden lolly stick, fabric scrap, paper strip, metal spoon, clear plastic strip (document wallet), foil piece. Print property word cards if using. Set two hoops or desk zones labelled bendy / not bendy. Cue the sorting-tree interactive on the IWB.

Materials

Item	Qty	Per	Source	Low-cost substitute
materials samples tray (wooden lolly stick, fabric scrap, paper strip, metal spoon, clear plastic strip from a document wallet, foil piece)	1	group	classroom	any safe classroom or home scraps of wood, fabric, paper, metal, clear plastic and foil
property word cards (hard, soft, bendy, see-through, rough, smooth)	1	group	provided printable	write the six words on sticky notes or the board
sorting hoops or clear desk zones	2	group	classroom	two sheets of paper labelled bendy and not bendy
Investigation Journal page	1	pupil	provided printable	plain paper with the same recording prompts written on the board



Safety watch-point

No tasting. Bend gently without snapping samples. Supervise small pieces and foil edges; return everything to the tray.



Teaching moves

- **Getting Started:** Keep it light: hold up a hand, ask if a jumper is soft or hard and if the table is rough or smooth. Take two or three everyday feel-words from nearby objects. Do not open the full trays yet; a soft scrap and hard block are enough if you want a quick contrast.
- **Today's property words:** Hold the clear plastic wallet and think aloud: predict, bend it, look through it, then name bendy and see-through as properties. Keep the board short. Point-and-say hard/soft, rough/smooth and see-through lightly; stress that today's sort and record use bendy / not bendy only. If a child says "wood-y," revoice: wood is the material, hard is a property.
- **Feel and look:** State the class bend rule: gently try to bend without breaking; curves without snapping = bendy. Groups share the tray; each child handles some samples and the group agrees one property word per piece—one bend test per sample, not every child on every piece. Circulate: "Does it curve without snapping? Bendy or not bendy?" No tasting; pieces back in the tray.
- **Group them by one property:** Repeat the bend rule, then send groups to place each of the six fixed samples into the bendy or not bendy hoop. Ask them to be ready to say why. For stiff plastic that bends a little, accept "a bit bendy" talk then decide together with the class rule. Early finishers may orally re-sort the same tray by see-through / not see-through only—no extra recording.
- **Sort on the board:** Drive the sorting-tree interactive in explore mode. Name the six cards exactly as on the trays. Before each placement ask "Is it bendy?" and fold watchers in: "Do you agree? What would your hands tell you?" Link back to the real hoop sort so the board is a recap, not a replacement.
- **Record our groups:** Leave hoop piles and trays out. Pupils record on the Investigation Journal only: material (name, traced word card, or quick picture) plus bendy or not bendy. Say aloud that two careful rows is success; faster writers may do more. No extra written columns for see-through or rough/smooth. Keep sample names visible on the board or word cards.
- **Why a window is see-through:** Name talk partners first. Point at a real window and the wall beside it. Partner talk, then share: is each see-through? Why do we want a see-through window? If someone says "because it is glass," accept the material and revoice to the property we need: see-through.



What it should show

Expect bendy: paper strip, fabric scrap, clear plastic strip, foil piece. Expect not bendy: wooden lolly stick, metal spoon. Stiff plastic may spark short debate—re-check with the class bend rule. A group that puts foil with the spoon often equates metal with not bendy; foil is metal and still bendy.

Misconceptions & interventions

- **Children mix the material name with the property:** “It is wood-y” or “It is metal-y.” — Hold the sample and revoice: “Wood is the material. Hard is a property of this piece.” Point back at the property word cards, not the material name.
- **“Metal is always not bendy,” so foil gets sorted with the spoon.** — Put foil and spoon side by side. Bend each with the class rule: spoon does not curve; foil does. “Metal is the material; bendy or not bendy is the property.”
- **A window is see-through “because it is glass,” stopping at the material name.** — Accept glass, then revoice: “Glass is the material. The property we need for a window is see-through—so light and looking-out work.”

Differentiation

Emerging	Developing	Proficient
• Offer word cards or allow a simple picture for the material name; success is two careful bendy / not bendy rows with the hoop piles still in view. • Sit at the teacher table for the bend test language: “Does it curve without snapping?”	• Complete more journal rows from the same sort, still using name/trace/ picture plus bendy or not bendy only. • While handling, add optional oral words (hard/soft, rough/ smooth, see-through) without writing extra columns.	• After the bendy sort, orally re-sort the same tray by see-through / not see-through and whisper what changed. • Explain to the group why foil can be metal and still bendy, using the class bend rule.

Cross-curricular hook

Links to Maths sorting and sets: two clear groups from one rule, then explain why each sample belongs.