

materials

Materials and sustainability

Lesson at a glance

Open by holding a clean plastic bottle beside a crisp packet and taking quick hands-up guesses on which recycles. Teach the three-bin criteria, then drive the sorting-tree interactive on three awkward items so the class agrees the decision questions. Groups glove up and sort a prepared sample bag into labelled recycling, compost and general-waste trays, tallying as they go. They record bin counts, one tricky item, and one reduce or reuse class action in the Investigation Journal, then vote one action to try.

Learning objectives

- Sort a sample of classroom waste into recycling, compost, or general waste using clear criteria
- Design one practical reduce or reuse action for the class or school and explain why it helps

Before the bell – prep

Night before: bag one clean, dry 8-item sample set per group (bottle or pot, card/paper, tin, sealed fruit scrap, crisp packet, dirty tissue, thin plastic bag, extra recyclable). Label three trays per group; print the Journal page; set gloves out. Picture cards work if real packaging is scarce.

**Materials**

Item	Qty	Per	Source	Low-cost substitute
disposable gloves (or washable classroom gloves)	1	pupil	supermarket	shared pairs of washable rubber gloves wiped between groups, or adult-handled sorting with pupils pointing
clean dry empty classroom waste samples (minimum 8 per group: bottle or pot, card or paper, tin or can, sealed fruit scrap, crisp packet, dirty tissue, thin plastic bag, plus one extra recyclable)	1	group	classroom	printed picture cards of the same waste items with clean/dirty or food captions so the three questions still apply
sorting trays or shallow boxes with header labels (recycling, compost, general waste)	3	group	provided printable	three sheets of newspaper on the desk as labelled zones
bin header labels (Recycling, Compost, General waste)	1	group	provided printable	handwritten sticky notes with the same three words
group tally strip or sticky note (three boxes: recycling, compost, general waste)	1	group	classroom	three tally marks on the tray labels themselves
clean empty plastic bottle and clean empty crisp packet for the hook	1	class	classroom	two clear photos on the IWB
Investigation Journal page	1	pupil	provided printable	plain paper with the same three recording prompts written on the board (bin counts; tricky item with why; one reduce or reuse idea)
hand soap and access to a sink or hand gel	1	class	classroom	hand gel only if sink access is limited

Safety watch-point

Prepared clean samples only — no real-bin digging. Gloves on; no tasting or close smelling of food scraps or tissues. Wash hands thoroughly at pack-away before the plenary.

Teaching moves

- **Getting Started:** Hold up the clean bottle and crisp packet (or show on the IWB). Take three or four guesses and reasons only — do not reveal the full answer. Leave the curiosity hanging: children often treat all plastic as the same.
- **How do we sort waste?:** Teach only the three bins now using the short board table: recycling (clean, accepted type), compost (food/plant scraps), general waste (the rest). Model aloud with a clean yoghurt pot, then contrast a thin bag and a greasy crisp packet. Keep reduce and reuse out until after the audit.
- **Agree the three questions:** Open the sorting-tree interactive in explore mode and drive it yourself on only the crisp packet, dirty tissue and plastic bag. Push the class to tighten the question wording so two groups would get the same answer. Stop at three items even if it is going well — protect the audit time.
- **Audit and sort classroom waste:** Groups of three to five: gloves on, tip out the sample, count total items, then place one item at a time using the three questions while one pupil marks the R/C/G tally strip. Hold disputed items for a 30-second class check. Watch for guessing by packaging colour alone; early finishers prep one sentence on their hardest item — no device task.
- **Record the audit:** Phase 1: Journal captures bin counts from the tally strip plus one tricky item with a short why — finish this before new language. Phase 2: say reduce and reuse in one line each, then pupils write one practical class or school action. Push evidence talk: 'greasy plastic' not just 'rubbish'. Sentence starters on the board for anyone stuck.
- **Share one reduce or reuse action:** One minute for groups to agree wording from the Journal draft. Five or fewer groups: every group shares 20–30 seconds then a hands-up vote. Six or more, or running late: hear three or four live, others hold up the Journal page, shortlist distinct options, same vote. Want specific, doable-this-term actions, not 'recycle more'.
- **What did we learn?:** Pack-away and hand hygiene first (four to five minutes, not less): gloves off, hands washed, samples bagged to real bins, trays stacked. Then two or three voices only on one sorting rule or action they will remember; name the voted or shortlisted class action to close.

What it should show

Expect clean bottles/pots, card, paper, tins and accepted glass in recycling; fruit/plant scraps in compost; crisp packets, dirty tissues, thin bags and greasy card in general waste. A group putting all plastic in recycling usually skipped 'accepted type' or 'clean and dry' — revoice those two checks on one sticky item. Strong actions are specific and doable (scrap-paper tray, reusable bottles), not only 'sort better'.

**Misconceptions & interventions**

- **All plastic goes in recycling — a bottle and a crisp packet or thin bag are the same.** — Hold the bottle beside the crisp packet or bag and re-run the three questions aloud. Stress clean-and-dry plus a type our scheme actually accepts; bonded or thin films usually fail the third check.
- **If it looks clean enough, greasy packaging or a dirty tissue can still recycle.** — Point at the contamination: food grease and used tissues spoil a load. Walk the decision path — not food, not clean and dry accepted material, so general waste.
- **Reduce and reuse just mean ‘put more in the recycling bin’.** — Tie the words back to what they just sorted: reduce = make less waste (refillable bottle); reuse = use again before binning (jar as pencil pot). Ask which item on their table would shrink if we did that.

Differentiation

Emerging	Developing	Proficient
• Offer board sentence starters for the Journal (counts, tricky item because..., one reduce/reuse idea) and sit the group at the teacher table for the first two placements. • Use picture cards with clean/greasy captions if handling real samples is too much; the three questions stay the same.	• After the tally, ask them to name which tray got the most items and why that pattern appeared. • Prompt one extra ‘why’ on a disputed item before it leaves the not-sure pile.	• Ask whether their sort would still hold if an item was wet or food-soiled, and what that means for looking after recycling. • Challenge the draft action: is it reduce or reuse, doable this term, and linked to something their group actually binned?

Cross-curricular hook

Tie the R/C/G tallies to the Maths Data strand — compare tray counts and read which bin was the mode for each group.