

Engineers make things to help

Lesson at a glance

Open on the class coat hooks and ask what would happen with nowhere to hang coats. Model the noticing cycle on one real helper (hook or PE basket), then children spot helpers already in the room with a partner. Lead a short helper hunt to three or four nearby stops, pausing so children name each helper and the little problem it fixes. Back in class, three or four children share with sentence stems. Close by naming engineers as the people who invent helpers like the ones just spotted.

Learning objectives

- Spot everyday helping things around school and say the little problem each one solves
- Say that engineers notice problems and make things to help

Before the bell – prep

Walk the route once before the lesson and pick three or four safe stops close to the room (cloakroom hooks, PE basket, ramp or threshold strip, lidded bin). Arrange a second adult if your school needs one to leave the room. Optional: a few clipboards and plain paper for children who need a quick sketch — not for the whole class.

Materials

Item	Qty	Per	Source	Low-cost substitute
planned indoor helper-hunt route with 3–4 stops (coat hooks, PE ball basket or crate, ramp or door threshold, bin)	1	class	outdoors	classroom-and-doorway tour only if weather or corridors make a longer walk unsuitable
clipboard (optional memory aid only)	4	class	classroom	a piece of stiff cardboard or a hardback book as a drawing board
plain drawing paper (optional)	4	class	classroom	the back of scrap paper or an unused page from a drawing pad
crayons (optional)	4	class	classroom	coloured pencils or a chunky pencil

**Safety watch-point**

Children stay with the group on walking feet; hands off other classes' things; return straight to the room. Take a second adult if required.

**Teaching moves**

- **Getting Started:** Keep this under two minutes. Point at the real coat hooks and ask what would happen with none. Accept floor-heap and lost-coat ideas, revoice them as a little problem, then stop — do not name the hunt stops yet or the surprise is gone.
- **Helpers and engineers:** Board only the helper idea. Live-model the noticing cycle on one real object in view: I wonder... I think... I look... I noticed... the basket/hook is a helper. Hold engineer until the closing summary so children have real helpers in mind first.
- **What helpers can we already see?:** Quick whole-class scan, then pair talk inside the room only. Listen for both the object and the little problem. If a child says only bin, revoice: the bin is a helper so rubbish is not all over the floor. Keep it short — the walk is the heart.
- **Helper hunt:** Lead the line. At each stop pause about two minutes: What helper is this? What little problem does it fix? Take two or three answers and move on. Wet day or busy corridor: run the same hunt as a classroom-and-doorway tour only.
- **What problem does it solve?:** Back in class, slow down. Invite three or four children and scaffold aloud: The ____ is a helper because... / Without it, ... If they only name the object, add the problem once yourself and have them repeat the full idea. Sketches may be held up; no marking.
- **Engineers make helpers:** Now name engineers: people who notice little problems and invent helpers. Link to one real stop from today's walk. If design/invent feels heavy, say engineers make things to help. Optional oral home notice only — no worksheet.

**What it should show**

Most children will name everyday school helpers (coat hooks, ball basket, bin, door stop, ramp/threshold) and, with revoicing, say the little problem each fixes — coats on the floor, balls rolling under feet, rubbish everywhere, trips. Affirm object-only answers, then gently add the problem so the full idea sticks. Success is oral: one real helper + its problem + hearing that engineers make helpers.

**Misconceptions & interventions**

- **Only big machines, robots or famous inventions count as engineering — a coat hook is just a hook.** — At the close, list today's hunt finds out loud: hooks, baskets, ramps, lidded bins, door stops. Say engineers made these everyday helpers too, not only big machines.
- **Children name the object (bin, hook) but do not link it to the little problem it fixes.** — Revoice once with the stem: Yes — the bin is a helper so rubbish is not all over the floor. Invite them to repeat the full line before moving on.



Differentiation

Emerging	Developing	Proficient
• Stay beside the teacher at each hunt stop and answer with a choice stem: Is the helper the hook or the floor? Then echo the revoiced little-problem line. • Offer a clipboard and plain paper so they can sketch one helper as a memory aid for the share.	• Prompt a second helper at the same stop: What else here is a helper, and what little problem does it fix?	• Ask them to compare two helpers from the hunt and say which little problem would be messier if that helper were missing.

Cross-curricular hook

Ties to oral language — children practise the stems The ____ is a helper because... and Without it... in full sentences.