

Engineers make things to help

Lesson at a glance

Open at the class coat hooks: what if there was nowhere to hang coats? Name the hook as a helper that fixes a little problem, then model the noticing cycle on one real object (hook or PE basket). Pupils spot helpers already in the room with a partner, then walk a short helper hunt with three or four calm stops. Back in class they revoice one helper and its little problem; close by naming engineers as people who invent helpers.

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 near the room (hooks, PE basket, bin with lid, small ramp or threshold). Arrange a second adult if your school needs one off-corridor. Optional: a few clipboards and plain paper for sketchers only – 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; walking feet; hands off other classes' things; return straight to the room. Take a second adult if required.

**Teaching moves**

- **Getting Started:** Point at the real coat hooks and ask what would happen with nowhere to hang coats. Accept floor mess, lost coats, a heap — then name that mess as a little problem. Keep the beat light; do not preview the whole walk yet.
- **Helpers and engineers:** Project only the two short board lines about helpers. Hold up one real object and run the modelled cycle aloud: I wonder... I think... I look... I noticed... the basket/hook is a helper. Save the word engineer for the close.
- **What helpers can we already see?:** Stay in the room. Whole-class scan, then quick pair talk: one helper and the little problem it fixes. If a child only says bin, revoice: Yes — the bin is a helper so rubbish is not all over the floor. Keep this short.
- **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 voices, then move on. Wet or busy day: run the same hunt as a classroom-and-doorway tour only.
- **What problem does it solve?:** Back in class, invite three or four children to share. Offer stems aloud: The ____ is a helper because... / Without it... If they only name the object, add the problem once and invite them to echo the full idea. Sketches may be held up — no marking.
- **Engineers make helpers:** Now introduce engineers: people who notice little problems and invent helpers. Link to one real stop from today's hunt. Optional oral home noticing only — a peg, bin or door stop — no worksheet.

**What it should show**

Most pupils will name everyday helpers (hooks, baskets, bins, door stops, ramps) and accept or echo the little problem each fixes — coats off the floor, balls not rolling, rubbish in one place. Some only name the object at first; affirm the name, then gently add the problem and have them repeat. Success is oral: one real helper + its problem + hearing that engineers make things to help.

**Misconceptions & interventions**

- **Only big machines, robots or famous inventions count as engineering.** — At the close, list today's real stops — hooks, baskets, bins, ramps — and say engineers invent these everyday helpers too. Point at one object while you name it.
- **A child names the object only (bin, hook) and stops — they have not linked it to a little problem.** — Revoice once: Yes — the bin is a helper so rubbish is not all over the floor. Invite them to say the full line with you.



Differentiation

Emerging	Developing	Proficient
• Stay beside the teacher at each stop and answer with a choice stem: Is this a helper for coats, or for balls? Then echo the little-problem line together. • Allow a quick sketch on optional plain paper as a memory aid when sharing back.	• Prompt the full pair: name the helper and say the little problem it fixes using The ____ is a helper because...	• Ask them to spot a second helper at the same stop, or say what would go wrong without it (Without it...).

Cross-curricular hook

Oral language: practise full sentences with stems The ____ is a helper because... and Without it...