technology

How does it work? Steps inside an everyday job

Lesson at a glance

Open by asking what would go wrong if a robot only got half the steps for an everyday job such as sharpening a pencil. Model ordering the four Set A sharpener cards as a class, then send groups of three or four to order their own one job set, play robot exactly as the cards say, and hide one card to spot the failure. Pupils record the ordered steps and the missing step on plain paper or the Investigation Journal. Close by naming their finished card line an algorithm and linking it to devices and recipes.

Learning objectives

- Break an everyday process into ordered steps
- Follow steps exactly as a robot and spot a missing step
- Recognise that devices follow step-by-step instructions (an algorithm)

Before the bell — prep

Print and cut one 4-card job set per group the day before (mix Sets A, B and C so neighbours differ); print one spare of each set for the board model and early finishers. Keep Set A ready as the default. Clear a small floor or carpet space. Have plain paper or Investigation Journal pages and pencils ready. No interactive is used.

Materials

Item	Qty	Per	Source	Low-cost substitute
step cards (one 4-card job set: pencil sharpener, sending a message, or washing hands)	1	group	provided printable	write the same short step phrases on sticky notes or scrap card
plain paper or Investigation Journal page	1	pupil	classroom	any scrap paper with space to number steps and draw the missing step
pencils	1	pupil	classroom	crayons or markers
clear floor or carpet space for play-robot	1	class	classroom	groups act the robot standing beside their desks in turn
pretend phone or flat card for message-set mime (optional shared prop)	1	group	classroom	robot mimes with an empty hand as the screen

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Safety watch-point

Clear floor or carpet space so the robot can move without tripping. Set B and C are mime only — no real water, soap, or pupil phones.

Teaching moves

- **Jobs work in steps:** Project only the short board text. Hold the live model to five minutes: lay the four Set A sharpener cards mixed, order them with the class on the ledge or floor, read left to right, and name them steps in order like a recipe. Do not hide a card yet and do not say algorithm. Optionally tease that one card will go missing, then send groups to their own single set.
- **Order the steps and play robot:** Run parallel group play for the full stretch. Give each group one set only—prefer Set A for groups that need the clearest actions. First pass: order all four and read aloud. Second: one child is the robot and may only do what the card being read says. Third: secretly remove one card, rerun, and name what failed. Walk the room watching for robots who add helpful extras—stop and revoice 'only what the card says'.
- **Record our steps:** Ask for three things only on paper: the four steps numbered or drawn in order, the hidden step, and what went wrong without it. Short labels or drawings are enough—cut off anyone writing paragraphs so sharing time is protected. Circulate with 'Could a robot finish with only the steps you wrote?'
- **Devices follow steps too:** Point at a group's finished card line and introduce algorithm now: that clear list is a recipe for the job. Take one share question at a time—which step did you hide and what broke, why order matters, what fails if you skip a step in toast or unlocking a door. Revoice pupil ideas into algorithm and missing step without a lecture.

What it should show

Groups should order Set A as hold sharpener → pencil in → turn handle → pencil out; Set B open app → choose who → type → send; Set C tap on → wet hands → rub soap → rinse and dry. When a card is hidden the job fails in a clear way (e.g. no turn handle leaves the pencil blunt; no send leaves the message unsent). A robot who still 'succeeds' has usually added an action not on the cards—rerun with strict card-only rules.

Misconceptions & interventions

- **Any list of actions is fine — order doesn't really matter.** — Point at a reversed pair on their cards (e.g. turn handle before pencil in) and ask the robot to follow it exactly. Let the broken result show why first-to-last order matters.
- **The robot can guess the sensible next move even if the card isn't there.** — Freeze the robot mid-action and revoice the rule: only what the card being read says — nothing extra. Hide a card again and have them name the gap in plain words.
- **Algorithm means something only computers or coders use.** — After play-robot, point at their own ordered cards and say that clear list is an algorithm — the same idea a sharpener, a tap, a phone app, or a recipe follows.

Differentiation

Emerging	Developing	Proficient
• Give Set A (sharpener) and keep all four cards visible while ordering; pair a confident reader to say each card aloud while the robot acts.	• After one missing-step pass, hide a different card and name what fails this time; or say aloud why two swapped cards break the job.	• Invent one extra wrong card (e.g. 'eat the pencil') and explain why it does not belong; or borrow a spare second set and spot one missing step there on paper.

Cross-curricular hook

Link to English sequencing and PE warm-up routines — everyday jobs and recipes work when steps are complete and in order.