

Plan and make our helper

Lesson at a glance

Open by holding up a real rolling pencil and naming one shared classroom problem: pencils keep rolling off the table. Children talk about who needs them to stay put, then handle a junk-modelling tray (no tape yet) to spot strong, bendy or wall-like pieces. Pairs draw a quick plan on scrap paper and build one small helper together, fixing joins as they go. They draw the problem and helper on the Investigation Journal page and store the builds for the share next time.

Learning objectives

- Name a small classroom problem the helper will solve
- Draw a quick plan for a simple helper
- Make a first helper from junk-modelling materials and fix it as they go

Before the bell – prep

Set one junk tray per table the day before (small boxes, card, lolly sticks, tubes). Pre-draw a simple tray-plan sketch for your short worked model. Place scrap paper on tables; hold masking tape and safe scissors back until the make step. Keep one ready small box base aside for pairs who need a start.

**Materials**

Item	Qty	Per	Source	Low-cost substitute
small cardboard boxes (junk-modelling)	6	group	classroom	clean food cartons from home collections
cardboard tubes	6	group	classroom	kitchen roll tubes cut shorter
scrap paper and card	1	group	classroom	used drawing paper or old folders cut into pieces
lolly sticks	10	group	classroom	strip off-cuts of stiff card
masking tape	1	group	classroom	sticky tape on a dispenser the teacher controls
safe scissors (round-tip)	1	pair	classroom	one shared scissors station with an adult
scrap paper for a quick plan	1	pair	classroom	the back of used paper
Investigation Journal page	1	pupil	classroom	a blank drawing page if the journal page is unavailable

Safety watch-point

Supervise safe scissors; adults make tricky cuts. Keep tape and small off-cuts off the floor; stand builds below shoulder height.

Teaching moves

- **Look at the problem:** Keep materials away. Hold up one real classroom moment if you can (a pencil that just rolled) and ask who has seen it — invite hand actions, not long answers. Stay on this one shared problem for the whole class; only swap to books falling, mixed crayons, or blowing name cards if pencils are not a real issue in your room.
- **Talk and share ideas:** Whole-class talk on the same problem. Capture two or three child ideas as quick board sketches or words you write. Name only the lead idea: we will make a helper for a real classroom need. Say success simply — the helper tries to stop pencils rolling; perfect finish is not the goal.
- **Explore the making tray:** One junk tray per table; tape and scissors still held back. Children handle and talk only — which pieces stand, bend, or could make a wall, tray edge or stand. Model one sentence (I think this box could hold pencils because it has sides), then move straight into making.
- **Make our helper:** Bring out tape and safe scissors. Pace two tiny beats: about 2 minutes for a shared quick plan on scrap paper, then build. Show your pre-drawn plan, stick one card lip live, and do one quick fix only — keep the demo short. One small helper per pair from tray materials; adults cut when needed. Celebrate mending as much as finishing; store a started piece if time runs short.
- **Draw our helper:** Hold up the Investigation Journal drawing page so children see the sheet. They draw the classroom problem and the helper they made (and a hint of the plan if space). Keep talk oral: Tell me who your helper helps. Pairs with almost no build still draw the plan and start; collect helpers carefully for the next share.
- **Keep safe for next time:** Very short close. Revoice: makers plan before they build, and they can fix as they go. One or two children may hold up a helper and name the problem in one sentence — save full show-and-tell. Label and store builds so they will not be crushed; scissors away; wipe sticky table edges.

What it should show

Pairs can point to the shared problem (pencils rolling) and their build roughly tries to help — a tray, low wall, pot or stand small enough to hold in two hands. Wobbly is fine; a first-time stable join still counts; unfinished-but-started is success if time is tight. A pair stuck with a flat card only usually skipped the plan or chose a piece with no sides — offer the ready box base and re-ask what could stop a roll.



Misconceptions & interventions

- **I have to make something big or fancy.** — Show your two-hands size with a tray piece and say helpers stay small enough to hold. Point back to the pencil problem: a little edge or tray is enough.
- **If a piece falls off, we failed.** — Name fix-as-we-go in the moment: If it wobbles, we change it and try again. Celebrate the mend (extra tape or a brace) as much as a first-time join.
- **We are making a toy, not something useful.** — Ask again who needs the pencils to stay put and whether the build will stop a roll. Keep the talk on the real classroom need, not play themes.

Differentiation

Emerging	Developing	Proficient
• Offer a ready small box as a base and sit with the pair to draw one simple edge on the scrap plan before they tape.	• Prompt one fix-as-we-go try: if the lip wobbles, add longer tape or a lolly-stick brace and test with a pencil roll.	• If finished early, add a second feature from the tray only (a lid or a label space) and say how it helps the same pencil problem.

Cross-curricular hook

Links to Visual Arts — quick plan sketches and the Investigation Journal drawing of problem and helper.