

Stronger and steadier builds

Lesson at a glance

Open with a real wobbling tower or cup-and-card bridge and ask what makes a build fall. Name free-standing once hands come off the demo. Pairs build a tower or bridge from blocks, cups and card, take hands away, then gently rest a light soft toy or sponge on top. Freeze that before, change one thing (often a wider base), and re-test. Close with a fast table-side show-and-tell of the one change.

Learning objectives

- Build a free-standing tower or bridge that stands on its own
- Test whether it holds a light object
- Change one thing to make the build steadier

Before the bell – prep

Night before: one tray per pair with 12–20 blocks or 8–12 cups, a few stiff card sheets, a short strip of masking tape, and one light object (soft toy, sponge or counters). Build a small demo tower or cup-and-card bridge in free play so you have something real to hold up. Clear table space; trays waiting before the move.

Materials

Item	Qty	Per	Source	Low-cost substitute
small tray of wooden blocks or stacking cups (about 12–20 blocks or 8–12 cups)	1	group	classroom	empty clean yoghurt pots or small cardboard boxes of similar size (roughly 8–12 pieces)
stiff card sheets (A4 or cereal-box card pieces)	3	group	classroom	flattened cereal-box panels cut into flat pieces before the lesson
masking tape (short roll or pre-torn strips)	1	group	classroom	ordinary sticky tape or washi tape
light test object (small soft toy, sponge or a few counters)	1	group	classroom	a clean sock rolled into a ball, or a rubber

Safety watch-point

Builds stay below shoulder height. Stand back if a stack topples; mind fingers between blocks and cups. No pushing other groups' builds over.

**Teaching moves**

- **Getting Started:** Keep trays out of sight. Hold up your ready tower or cup-and-card strip and ask what makes a build fall and what might help it stay up. Take two or three ideas only. Point to the classroom easel, coat stand, or a local footbridge as a real free-standing example.
- **Talk and share ideas:** On the carpet, take hands off the demo build so everyone sees it stand alone, then say free-standing. Keep only that phrase on the board. Draw out wide base, careful stacking and card as a deck without listing every tip. Head off taller-is-better: the win is free-standing and steady.
- **Build your tower or bridge:** Model once in under a minute: skinny four-cup stack, hands off, soft toy on — it tips; notice the narrow base. Stop. Call move to trays with one clear line. First signal: build, hands off. Second signal once most stand: gently rest the light object. Circulate praising free-standing, not height. Freeze every group's before — no improving yet.
- **Test and make it steadier:** Hands still. Point at each standing build: this is your before. Each group names one change out loud before touching — wider base, extra card layer, object nearer the middle, tape at a wobbly join, or a wider cup footprint. After the change: hands off, light object on again. Ask what one thing changed and whether it is steadier.
- **Show and tell:** Builds stay on tables; children stand behind them. Two or three groups give one short sentence about their change. Fold the class in with What did they change? Why might that help? Revoice free-standing and name builders and engineers with the easel or local footbridge. No writing, no tallest-tower score.

What it should show

Most groups reach a free-standing tower or bridge that stands hands-off; many will hold the light object after one change, often a wider base or a taped join. A build that tips with the toy usually has a narrow footprint or the load off-centre — affirm the noticing and prompt one small fix. Success is free-standing and steadier, not tallest.

Misconceptions & interventions

- **Taller is always better — the win is the highest tower in the room.** — Praise hands-off standing and a toy that stays on, not height. Point at a short wide build that holds the load and ask which job it does well.
- **Someone can hold it up — if my hands stay on, it still counts as standing.** — Gesture hands clearly away from the demo and their build. Say free-standing means hands off; only then does the light-object test count.
- **Change everything at once when it wobbles.** — Freeze the before and insist they name one change out loud first. After the re-test, ask what one thing they changed so cause and effect stay visible.

Differentiation

Emerging	Developing	Proficient
- Stay at the teacher table with a partly-started wide base already on the tray; prompt hands off, then the light object, then one named change only. - Offer cups rather than mixed blocks if stacking is the sticking point.	- After one successful change, try the other build type (bridge if they made a tower) still using the same tray. - Prompt: where will the light object sit so it stays steady?	- Ask them to explain to a neighbour why their one change made it steadier, pointing at the base or join. - Challenge: can the same free-standing build hold the light object nearer the edge without tipping?

Cross-curricular hook

Link to a local footbridge or the classroom easel's wide base, and to early shape talk — wide base, tall stack, flat card deck.