

materials

Mixing materials

Lesson at a glance

Open with the baker picture: flour and water go into one bowl — what happens? Name mixing, then model flour-and-water live so children hear run-off-the-spoon versus stay-in-a-lump. Groups rotate through two short station visits (sand, flour or cornflour with water), each pair scooping damp powder into its own pot, adding water and stirring. Carpet share names pour or lump for samples at the front; close by linking back to the baker — mixing can make something that feels new.

Learning objectives

- Mix two everyday materials at a station and describe the result
- Say whether a mix pours or holds its shape
- Notice that mixing can make something that feels new

Before the bell – prep

Night before: check wheat allergies and set a cornflour-only path if needed. Pre-dampen flour and cornflour so children scoop damp powder, not dust. Lay six wipe-clean trays (two sand, two flour, two cornflour side by side); each needs three spoons, three pots, water cup, reserve damp powder, waste tub and cloth.

**Materials**

Item	Qty	Per	Source	Low-cost substitute
shallow mixing trays (two for each of the three materials)	6	class	classroom	clean cat-litter trays or deep baking trays
play sand	1	class	school kit	clean builder's sand rinsed and dried, or dry rice for a no-sand room
plain flour	1	class	supermarket	extra cornflour station only if wheat cannot be used
cornflour	1	class	supermarket	extra flour-and-water paste if cornflour is unavailable
small reserve pots for unmixed damp powder	6	class	classroom	clean yoghurt pots or takeaway tubs
jug of clean water	1	class	classroom	bottles of tap water
spoons	18	class	classroom	lolly sticks or clean yoghurt-pot scoops
small cups of water (one on each tray)	6	class	classroom	clean yoghurt pots
towels or cloths	6	class	classroom	kitchen roll
small mixing pots (three on each tray, one per pair)	18	class	classroom	clean yoghurt pots, takeaway tubs or the bottom half of cut plastic cups
small waste tub for emptying pots (one on each tray)	6	class	classroom	an empty ice-cream tub or a lined bucket

Safety watch-point

Check wheat allergies before flour trays. Sleeves up; no tasting; mixes away from faces; wipe spills at once; wash hands with soap after tidy.



Teaching moves

- **Getting Started:** Hold up an empty bowl or the baker picture. Ask what the baker is putting in — take two or three quick answers only. Do not name the three stations or show the trays yet; keep the guessing lively.
- **What happens when we mix?:** Board the word mixing. At the flour-and-water tray, think aloud: scoop, stir, tip the spoon. Model the friendly pair run off the spoon / stay in a lump, then revoice holds its shape only after they have seen the tip. Stress both flour and water are still in the paste.
- **Mix at the stations:** Six groups of four or five; two complete mix-and-judge visits (about four minutes each) with a one-minute wipe-and-swap. Every pair uses its own pot — tray catches spills only. Prompt: tip gently — run off or stay in a lump? Watch the paired cornflour trays; children will squeeze that mix.
- **What did we notice?:** Carpet with one spoonful sample per mix at the front. Two children per mix say one look or feel word, then choose pour or stay in a lump. Offer stems aloud; revoice holds its shape after they choose. Children who visited only two trays still join by looking.
- **Make-sense talk:** Baker picture back up. Revoice: mixing two materials can make something that feels new. Fish for the cornflour surprise — firm when squeezed, runny when still — and celebrate if both labels fit. Talk only; no writing.



What it should show

Sand-and-water stays grainy and heavy and does not pour smoothly. Flour-and-water makes a sticky paste that holds its shape on the spoon. Cornflour-and-water is the surprise: firm when squeezed quickly, runny when held still — both pour and lump can be right. If a group's flour mix runs like a drink, they added too much water; try one more small scoop of damp powder.



Misconceptions & interventions

- **“The flour is gone — it disappeared into the water.”** — Point at the paste on the spoon: both flour and water are still there together. Name the two starting materials, then the new feel.
- **Children only say “yucky” or “nice” and will not judge pour versus lump.** — Hand them the spoon and say: tip it gently — does it run off, or sit there? After they choose, revoice pours or holds its shape.
- **On cornflour, children insist it must be only one thing — either pour or lump.** — Let them squeeze then hold still. Celebrate both labels: this mix can do both at different times.



**Differentiation**

Emerging	Developing	Proficient
• Pair at the teacher-watched flour tray; adult holds the pot while the child scoops and stirs, then tips together and chooses run-off or lump with the stem aloud. • Accept one sensory word plus a pointed choice at the spoon; revoice the science phrase for them.	• After the tip, ask one extra: does it feel different from the dry powder alone? • On the second tray, compare aloud to the first mix they made — same or different on the spoon.	• At cornflour, prompt them to try squeeze then still and tell the carpet both results. • In make-sense talk, invite who else mixes to help people (builder with sand and cement) while keeping the baker as the anchor.

Cross-curricular hook

Link to SPHE/home: who mixes when cooking at home — oral share next day, no worksheet.