

materials

Mixing materials

Lesson at a glance

Open with a baker tipping flour and water into one bowl and wonder what happens when they go in together. Model stirring at the flour-and-water tray, tipping the spoon and choosing run-off or stay-in-a-lump. Children visit sand-water, flour-water and cornflour-water stations in short rotations, scooping fresh damp powder, adding water and judging each mix by sight and feel. Carpet share uses look-and-feel words, then a make-sense talk: 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

Check wheat allergies; plan a cornflour-only path if needed. Pre-dampen sand, flour and cornflour so children scoop damp powder, not dust. Set three wipe-clean trays with spoons, cups and reserve pots of fresh powder for each rotation. Towel and water jug ready.

**Materials**

Item	Qty	Per	Source	Low-cost substitute
shallow mixing trays	3	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	3	class	classroom	clean yoghurt pots or takeaway tubs
jug of clean water	1	class	classroom	bottles of tap water
spoons	9	class	classroom	lolly sticks or clean yoghurt-pot scoops
small cups	6	class	classroom	clean yoghurt pots
towels or cloths	3	class	classroom	kitchen roll

Safety watch-point

Check wheat allergies before the flour tray. Mixes off faces; no tasting. Sleeves up, wipe spills at once, wash hands with soap after tidy.



Teaching moves

- **Getting Started:** Hold up an empty mixing bowl or show the baker picture. Ask what the baker is putting into the bowl and take two or three quick answers. Keep it light — do not name the stations or hand out materials yet.
- **What happens when we mix?:** Model live at the flour-and-water tray before stations open: wonder, predict sticky, stir slowly so all can see, then tip the spoon. Use run off the spoon / stay in a lump first; name holds its shape only after the tip. Say both flour and water are still in the paste.
- **Mix at the stations:** Three groups; about three minutes hands-on, then a clear swap cue — two clean visits beat a rushed third. Only two or three stir at once; watchers still judge every tip. Give each group a fresh scoop from the reserve pot plus a little water. Stay close to cornflour. Prompt: look, feel, tip — run off or stay in a lump?
- **What did we notice?:** Whole-class carpet with one spoonful sample from each station at the front. Two children per mix share one noticing. Offer stems: It looks... It feels... It pours. It stays in a lump. Children who reached only two stations still join every mix by looking and listening.
- **Make-sense talk:** Show the baker picture again. Revoice toward mixing two materials can make something that feels new. Celebrate if cornflour both poured and held a shape. Hands-up talk only — no writing.



What it should show

Sandy water usually pours; flour paste often stays in a sticky lump; cornflour can feel hard when squeezed and runny when left alone — both labels can be right. Affirm careful look-and-feel words. If a mix stays powdery, add a drop of water and re-stir rather than treating it as a wrong answer.



Misconceptions & interventions

- **The flour or sand disappears when you mix — it's only water now.** — Point at the paste and name both starting materials still being there: flour and water made this sticky mix together.
- **A mix must be only pour or only lump, so cornflour feels like a wrong answer.** — Celebrate both notices: squeeze and it can hold a shape; tip gently and it can run. Both labels can be right for this mix.



**Differentiation**

Emerging	Developing	Proficient
• Stay at the teacher-supported tray; invite a finger touch then a simple choice: run off the spoon, or stay in a lump? • Offer the stem It feels... and accept one sensory word before the pour-or-lump judgement.	• After the tip ask: Does it feel different from the dry powder alone? • Invite a second stir with a tiny extra splash of water and compare the new feel.	• Prompt: Which mix would a baker want for dough — the one that pours or the one that stays in a lump? Why? • Notice if cornflour did both and tell the carpet group when it changed.

Cross-curricular hook

English oral language: sentence stems It looks... / It feels... build describing talk from real hands-on evidence.

