



INSTRUCTIONAL GUIDANCE: DECOMPOSING NUMBERS

Implementation summary

Summary

- The goal is to develop students' understanding of **part-whole relationships** so they can identify the whole, identify known or visible parts, and work out hidden or missing parts.
- Students should learn to explain how numbers can be broken apart and recombined, using language such as: "The whole is ____." / "The parts are ____ and ____." / "____ and ____ make ____." / "____ is ____ and ____." / "The missing part is ____." / "I need ____ more to make ____."
- Begin with small quantities and combinations students have already been taught. Progress gradually from visible parts within 5, to hidden or missing parts within 5, then to larger combinations within 10 as students become more accurate and confident.
- Use concrete and visual representations first when students are acquiring the skill. Useful representations include counters, blocks, fingers, dot patterns, five-frames, ten-frames, part-part-whole mats, and structured dot cards. Add numerals and number sentences once students understand the part-whole relationship.
- Use representations intentionally. Part-part-whole mats help students identify the whole, known part, and missing part. Dot patterns, domino-style cards, five-frames, and ten-frames help students recognise parts within structured quantities. Fingers provide an accessible body-based representation for small combinations.
- Support students to move from counting-all strategies towards more efficient recognition of known part-whole combinations. Counting can still be used to check, but the instructional goal is for students to see, say, and use number relationships flexibly.
- Use frequent, brief review sessions once students are accurate with taught combinations. Review should include varied forms of the same part-whole relationship.
- Require every student to respond on every prompt using choral response, mini-whiteboards, response cards, partner rehearsal, finger displays, or another active participation routine.
- If students are inaccurate, slow down and return to explicit modelling with concrete or visual supports before continuing review.
- If students are accurate but slow, continue brief daily review with cumulative practice so part-whole combinations become more fluent, flexible, and reliable over time.
- If a small group remains inaccurate after classwide review, use the same routines in a more explicit Tier 2 format with smaller number ranges, more modelling, more guided practice, and more immediate feedback.
- Instruction should include explicit modelling, guided practice, independent practice, brief daily review, and cumulative review.