

INSTRUCTIONAL GUIDANCE: DECOMPOSING NUMBERS

Review & practice

Daily review should be brief: about 5–10 minutes. Use familiar visual or concrete representations first. Add numerals and number sentences once students understand the part–whole relationship. Use active participation strategies so all students respond, every time.

Quick Partners

Purpose

This routine helps students quickly recognise a whole quantity and identify two visible parts within it. It supports decomposition, part–whole language, and early addition facts.

Use for

Brief whole-class revision once students have already been taught to identify parts and wholes using visual representations. Begin with numbers within 5, then extend to known combinations within 10.

Display options

- a dot strip with two colours
- a dot pattern where the parts are visually distinct
- a domino pattern with two colours, such as 2 pink dots and 2 green dots
- a five-frame or ten-frame with a divider showing the parts
- a digital slide showing one representation at a time

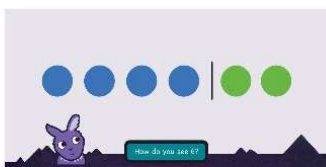
Teacher note

Use examples where the whole and parts are quickly recognisable. The goal is not for students to count every dot one-by-one, but to recognise the whole and the visible parts. Keep the routine brisk. Display the sentence stems during the routine:

- ▶ ___ and ___ is ___
- ▶ ___ is ___ and ___



Step	Teacher move	Student response
1. Introduce the task	"Today we are practising seeing a whole number and the parts inside it. I will show a dot pattern. First, tell me how many altogether. Then we will name the two parts."	
2. Display the whole	Display a dot strip or dot pattern where the whole and parts are quickly recognisable. For example, show a domino 4 pattern with 2 pink dots and 2 green dots, or 4 dots in a five-frame with a divider.	Students look.
3. Identify the whole	Gesture around the whole amount. "How many?" Hold up stop hand, pause, then lower hand.	"4."
4. Prompt for how students see it	"How do you see 4? Turn and tell your partner." Allow about 10 seconds. Select 1–2 students to share.	Students briefly tell a partner: "I see 2 and 2." / "I see 3 and 1."
5. Identify the first part	Point to the first part. "What's the first part?" Hold up stop hand, pause, then lower hand.	"2." / "3."
6. Identify the second part	Point to the second part. "What's the second part?" Hold up stop hand, pause, then lower hand.	"2." / "1."



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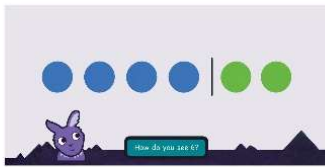
Review & practice

7. Say the parts-to-whole sentence	Display the sentence stem: ____ and ____ is _____. Point to the first part, second part, then gesture around the whole. Model: "2 and 2 is 4." "Say it with me."	"2 and 2 is 4."
8. Say the whole-to-parts sentence	Display the sentence stem: ____ is ____ and _____. Gesture around the whole, then point to each part. Model: "4 is 2 and 2." "Say it with me."	"4 is 2 and 2."
9. Repeat with varied examples	Show another familiar representation, such as 5 as 4 and 1, 5 as 3 and 2, 6 as 5 and 1, or 7 as 5 and 2.	Students identify the whole, name the parts, and say both sentences.
10. Confirm or correct	If students are inaccurate, show the image again and point to each part. "Let's check. This part is _____. This part is _____. ____ and ____ is ____."	Students repeat the corrected sentence.

Examples

Representation	Teacher prompt	Expected response
Domino-style 4: 2 pink dots and 2 green dots	"How many? How do you see 4?"	"4. I see 2 and 2."
Five-frame 4: divider after 3 dots	"What's the first part? What's the second part?"	"3 and 1."
Ten-frame 7: full row of 5 and 2 more	"How do you see 7?"	"I see 5 and 2."
Dot strip 6: 4 blue dots and 2 yellow dots	"Say it both ways."	"4 and 2 is 6. 6 is 4 and 2."

Adapted from: Partner Activity in Jordan, N. C., & Dyson, N. (2025). Early numbers, big ideas: Fostering number sense in young children. Centre for Independent Studies.



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Review & practice

Cumulative review

As decompositions are mastered, they can be practised with reduced frequency. For decomposition, a "fact" may be presented in several related forms: a visual part–whole representation; a spoken sentence; a whole-to-parts sentence; a missing-part prompt; or a finger, dot, five-frame, ten-frame, or part–part–whole mat representation.

Cumulative review should include varied representations so students learn the part–whole relationship flexibly, rather than memorising only one visual pattern.

For example, in a set of 20 decomposition prompts, a review routine could include:

Review timing	Number of prompts
Today's decompositions	8 prompts: 4 combinations, shown twice each using different representations
1 day review	2 prompts
3 day review	2 prompts
7 day review	2 prompts
14 day review	2 prompts
30 day review	2 prompts
60 day review	1 prompt
120 day review	1 prompt

Or:

Review set	Number of prompts
Today's decompositions	8 prompts: 4 combinations, shown twice each using different representations
Yesterday's decompositions	4 prompts
This week's decompositions	4 prompts
This month's decompositions	2 prompts
Older decompositions	2 prompts

Example: decomposition within 5

If the current focus is 5 as 4 and 1 and 5 as 3 and 2, today's review might include:

Prompt type	Example
Dot pattern	Show 5 as 4 blue dots and 1 yellow dot.
Sentence stem	"___ and ___ is 5."
Whole-to-parts stem	"5 is ___ and ___."
Missing part	$5 = 3 + \underline{\quad}$
Fingers	"Show 5 as 4 and 1."
Mini-whiteboard	"Write one way to make 5."

REVIEW PROMPT SET

DECOMPOSITION WITHIN 5

Different ways to show 5 as parts

1 DOT PATTERN

4 1

2 SENTENCE STEM

___ and ___ is 5.

3 MISSING-PART EQUATION

$5 = 4 + \underline{\quad}$

4 FINGER REPRESENTATION

4 1

Decomposition helps us see numbers as parts that make a whole.