

# Master Non-Standard Partitioning (3 digits) B

## Rationale

In this step, pupils build on their understanding that 3-digit numbers can be combined and partitioned in different ways. They will understand that 3-digit numbers can be composed and decomposed by breaking one or more place value parts. For example, 500, 180 and 9 combine to make 689 or 386 partitions into 350 and 36. They progress to using part-whole models to write and complete addition and subtraction equations. This includes equations with missing numbers. For example,  $470 + \underline{\quad} = 495$  and  $584 - \underline{\quad} = 512$ . Pupils' understanding will be developed further by composing and decomposing numbers abstractly.



## Key Stem Sentences

- $\underline{\quad}, \underline{\quad}$  and  $\underline{\quad}$  combine to make  $\underline{\quad}$
- $\underline{\quad}$  partitions into  $\underline{\quad}, \underline{\quad}$  and  $\underline{\quad}$
- $\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$
- $\underline{\quad} - \underline{\quad} = \underline{\quad}$



## Key Vocabulary

- 100s / 10s / 1s
- compose / decompose
- combine / partition



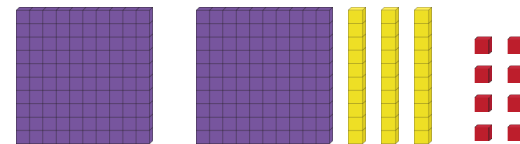
## Common Errors or Misconceptions

- Pupils may compose or decompose incorrectly. For example  $456 = 440 + 26$

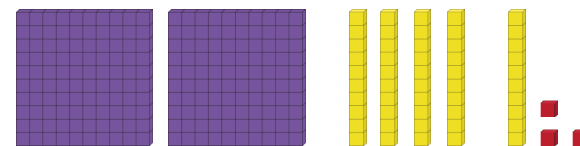


## Key Representations

### Dienes



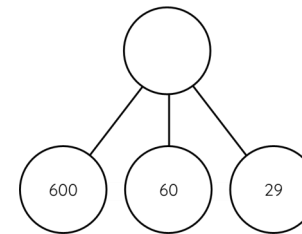
100, 130 and 8 combine to make 238



253 partitions into 200, 40 and 13

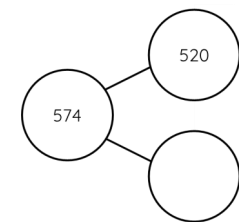
### Part-Whole Models

#### Composing



$$600 + 60 + 29 = \underline{\quad}$$

#### Decomposing



$$574 - \underline{\quad} = 520$$



## Pupils will FLOURISH if they can...

- accurately combine and partition 3-digit numbers in different ways.
- complete addition and subtraction equations to show the composition and decomposition of 3-digit numbers.
- identify the missing number in addition and subtraction equations.
- begin to explain their understanding using 'Decide, Assess, Back up', given stems and representations.

