Master Non-Standard Partitioning (7 digits) B

Rationale

In this step, pupils build on their understanding that 7-digit numbers can be combined and partitioned in different ways. They will understand that 7-digit numbers can be composed and decomposed by breaking one or more place value parts. For example, 7,000,000, 1,300,000 and 54,000 combine to make 8,354,000 or 4,015,307 partitions into 4,010,000, 2,000, 3,300 and 7. They progress to using part-whole models to write and complete addition and subtraction equations. This includes equations with missing numbers. For example, $3,708,125 + \_\_\_ = 3,749,125$ and $8,413,076 - \_\_\_ = 6,113,076$. Pupils' understanding will be developed further by composing and decomposing numbers abstractly.

Key Stem Sentences

- ___ combine to make ___
- ___ partitions into ___
- ___ + ___ + ___ + ___ = ___
- ___ - ___ = ___

Key Vocabulary

- 1,000,000s / 100,000s / 10,000s / 1,000s / 100s / 10s / 1s
- compose / decompose
- combine / partition

Key Representations

Place Value Counters

5,000,000, 1,100,000, 8,000 and 1,200 combine to make 6,109,200

6,109,200 partitions into 5,000,000, 1,100,000, 8,000 and 1,200

Part-Whole Models

Decomposing

$5,370,486 - \_\_\_ = 5,320,086$

Composing

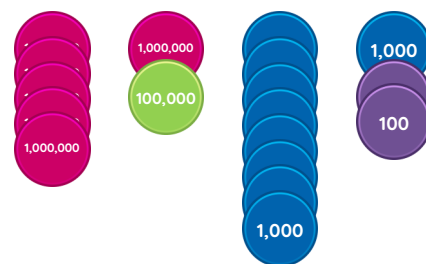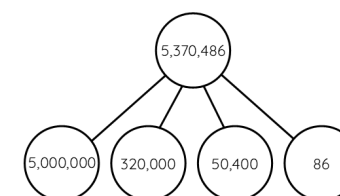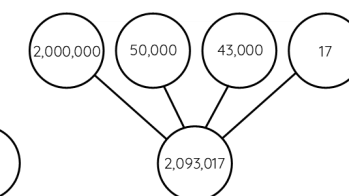$2,000,000 + 50,000 + 43,000 + 17 = \_\_\_$

Common Errors or Misconceptions

- Pupils may compose or decompose incorrectly. For example $4,374,529 = 2,000,000 + 2,300,000 + 170,000 + 450 + 20 + 9$

Pupils will FLOURISH if they can...

- accurately combine and partition 7-digit numbers in different ways.
- complete addition and subtraction equations to show the composition and decomposition of 7-digit numbers.
- identify the missing numbers in addition and subtraction equations.
- explain their understanding in multiple ways using their own words and representations.