

Master Non-Standard Partitioning (3 Decimal Places) B

Rationale

In this step, pupils build on their understanding that numbers with 3 decimal places can be combined and partitioned in different ways. They will understand that decimal numbers can be composed and decomposed by breaking one or more place value parts. For example, 150, 29, 0.3, 0.28 and 0.004 combine to make 179.584 or 26.013 partitions into 10, 16.01 and 0.003. They progress to using part-whole models to write and complete addition and subtraction equations. This includes equations with missing numbers. For example, $2.751 + \underline{\quad} = 2.793$ and $54.615 - \underline{\quad} = 51.215$. Pupils' understanding will be developed further by composing and decomposing numbers abstractly.



Key Stem Sentences

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



Key Vocabulary

- 100s / 10s / 1s / 0.1s / 0.01s / 0.001s
- compose / decompose
- combine / partition



Common Errors or Misconceptions

- Pupils may compose or decompose incorrectly. For example, $25 + 1.8 + 0.005 + 0.02 = 26.852$

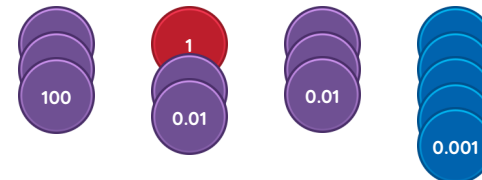


Key Representations

Place Value Counters



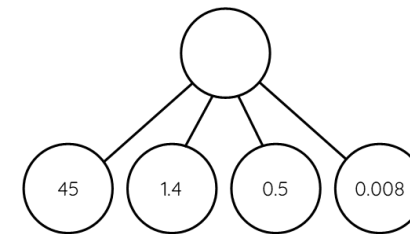
4, 0.2, 0.013 and 0.004 combine to make 4.217



301.055 partitions into 300, 1.02, 0.03 and 0.005

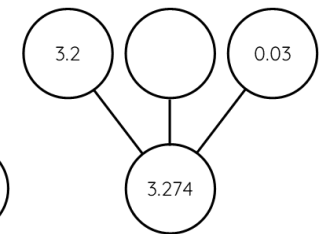
Part-Whole Models

Composing



$$45 + 1.4 + 0.5 + 0.008 = \underline{\quad}$$

Decomposing



$$3.274 - \underline{\quad} = 3.203$$



Pupils will FLOURISH if they can...

- accurately combine and partition numbers with 3 decimal places in different ways.
- complete addition and subtraction equations to show the composition and decomposition of decimal numbers.
- identify the missing numbers in addition and subtraction equations.
- explain their understanding in multiple ways using their own words and representations.