# MATHS CALCULATION POLICY - YEAR 2

## PURPOSE

This policy sets out the agreed approach to teaching calculation in Year 2. It ensures:

- Consistency of models, language and expectations across classrooms.
- Secure progression from Year 1 foundations.
- Continued use of NCETM Mastery Number to strengthen number sense.
- Alignment with NCETM Curriculum Prioritisation for main maths teaching.

## AIMS

- Strengthen number sense developed in Year 1 through structured small-step teaching.
- Deepen understanding of part-whole relationships and place value.
- Use consistent representations to expose structure and support reasoning.
- Build fluency through daily rehearsal, intelligent practice and secure knowledge of key facts.
- Develop precise mathematical language and encourage pupils to explain their thinking.
- Depth before acceleration; pupils move together through the curriculum.

## KEY LEARNING EXPECTATIONS

### 1. Number Sense and Place Value

Year 2 pupils will:

- Understand numbers to 100, including tens and ones.
- Partition numbers flexibly (e.g., 46 as 40 and 6, or 30 and 16).
- Compare and order numbers using place-value reasoning.
- Count forwards and backwards in steps of 2, 3, 5, and 10.
- Recognise patterns and relationships within the number system

These foundations are also developed through daily Mastery Number sessions.

### 2. Addition

Conceptual Understanding

- Combining quantities.
- Increasing a number.
- Understanding addition as part-whole and as movement along a number line.

Strategies

- Counting on.
- Bridging through 10.
- Using known bonds (to 10 and 20).
- Partitioning and recombining.

Fluency Expectations

- Secure number bonds to 10.
- Developing number bonds to 20.
- Addition facts within 20.
- Addition within 100 using place-value strategies

### 3. Subtraction

Conceptual Understanding

- Removing from a quantity.
- Finding the difference.
- Understanding subtraction as part-whole and as movement backwards on a number line.

Strategies

- Counting back.
- Counting on to find the difference.
- Using known bonds.
- Partitioning and recombining.

Fluency Expectations

- Secure subtraction facts within 10.
- Developing subtraction facts within 20.
- Subtraction within 100 using place-value strategies.

**4. Multiplication**

Conceptual Understanding

- Multiplication as equal groups.
- Multiplication as repeated addition.
- Early understanding of arrays.
- Scaling.

Facts

- 2, 5, and 10 multiplication tables.
- Related facts (e.g., if 5 × 3 = 15, then 3 × 5 = 15).

**5. Division**

Conceptual Understanding

- Division as sharing equally.
- Division as grouping.
- Understanding the relationship between multiplication and division

Facts

- Division facts linked to 2, 5, and 10 multiplication tables.

**6. Fractions**

Year 2 pupils will:

- Recognise and find halves, quarters, and thirds.
- Understand unit fractions as equal parts of a whole.
- Begin to understand non-unit fractions through sharing and partitioning.
- Use shapes, bar models, and practical contexts.

## REPRESENTATIONS & MODELS

Year 2 teachers will use the following consistently:

- Tens frames for number bonds and bridging.
- Part-whole models for addition and subtraction.
- Number lines for addition, subtraction, multiplication, and division.
- Base-10 equipment for place value and calculation.
- Arrays for multiplication and division.
- Concrete manipulatives.

Representations must be used to expose structure and support reasoning.

## MENTAL FLUENCY EXPECTATIONS

By the end of Year 2, pupils should have secure fluency in:

- Number bonds to 10 and 20.
- Addition and subtraction facts within 20.
- Counting in 2s, 3s, 5s, and 10s.
- Multiplication facts for 2, 5, and 10.
- Related division facts.
- Efficient mental strategies using place value.

Fluency is developed through Mastery Number sessions, daily rehearsal, and structured variation.

## WRITTEN METHODS

Year 2 introduces early written structures but not formal column methods. Pupils record using:

- Number sentences.
- Part-whole diagrams.
- Number lines.
- Base-10 drawings (tens and ones).
- Early expanded addition and subtraction (conceptual only).

Formal column methods are not taught in Year 2.

## MATHEMATICAL LANGUAGE

Teachers model and expect precise vocabulary, including:

- Addition: add, plus, total, sum, altogether, increase.
- Subtraction: subtract, minus, take away, difference, decrease.
- Multiplication: multiply, times, equal groups, lots of, product.
- Division: divide, share, group, quotient.
- Fractions: half, quarter, third, equal parts.

Language is embedded in daily routines and Mastery Number sessions.

## ASSESSMENT

Teachers use:

- NCETM Curriculum Prioritisation Assessments.
- Daily formative assessment through questioning, observation, and pupil talk.
- Small-step intervention for pupils needing additional practice.

## INCLUSION

All pupils access the same curriculum. Support is provided through:

- Concrete manipulatives.
- Pre-teaching.
- Guided practice.
- Structured rehearsal.
- Challenge is provided through depth, not acceleration.
- Targeted Interventions.

## EXPECTATIONS OF TEACHERS

- Follow NCETM Curriculum Prioritisation for planning.
- Deliver daily Mastery Number sessions.
- Use consistent representations and language.
- Prioritise depth and secure understanding.
- Engage with ongoing professional development linked to mastery.

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