Stockton Wood Primary School Calculation Policy Reception – Year 6

2025-26

Approved by:		**Date:**	**10.9.2025**
Last reviewed on:			
Next review due by:			

Introduction

This calculation policy aims to provide a structured and consistent approach to the teaching of calculation across the school. It ensures that all learners develop a deep understanding of mathematical concepts aligned with the 2014 National Curriculum in England, thereby fostering achievement and excellence in mathematics. The policy is also designed to meet the expectations set forth by Ofsted regarding curriculum intent, implementation, and impact.

- To ensure continuity and progression in calculation methods throughout the school.
- To build children's confidence and proficiency in calculation through consistent teaching strategies using a Concrete, Pictorial, Abstract (CPA) approach.
- To support teachers in the delivery of the mathematics curriculum, ensuring all children achieve expected or greater than expected progress.

Calculation Framework

Calculations will be approached through four main strands: addition, subtraction, multiplication, and division. Each strand will outline the CPA approach to support conceptual understanding, in line with the White Rose Scheme of Learning. This Policy is to be used alongside the White Rose, Primary Maths Calculation Policy (updated September 2024) and the White Rose, Primary Maths Vocabulary Progression Document (updated September 2025). When completing calculations, everyone is to follow the Concrete, Pictorial, Abstract (CPA) approach, while building in mental strategies when teaching mastery maths.

- **Concrete**: Use of manipulatives (e.g., counters, Base Ten).
- **Pictorial**: Number lines, arrays, part-whole models, simple number sentences modelling the process and other pictorial representations.
- **Abstract**: Introduce standard written methods towards the end of Year 1 with a focus on understanding rather than rote learning.
- **Mental Strategies**: Teach number facts, number bonds, and the use of rounding for estimation.

Addition and Subtraction:

1. Mental methods before written methods when solving problems.

When tackling addition and subtraction problems, pupils should always be encouraged to see if they can complete the calculation in their heads or with jottings first before they go straight to a formal written method. It may be quicker and more efficient as formal written methods can be time consuming and do not help develop conceptual understanding.

2. Understanding the relationship between addition and subtraction.

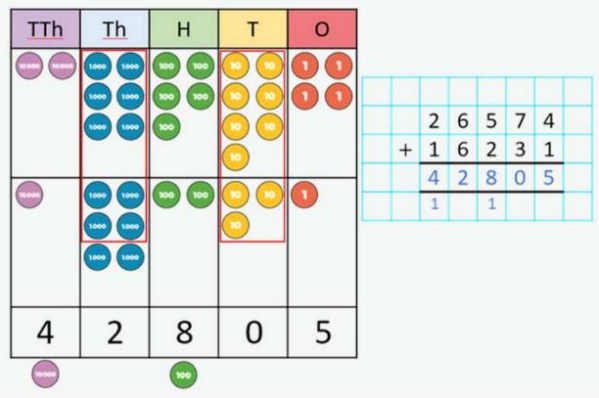
It is important pupils understand that rather than there being 4 operations (+, −, x, ÷), there are 2 relationships. The relationship between addition and subtraction and the relationship between multiplication and division. We want to encourage pupils to use the inverse when solving addition or subtraction calculations mentally.

3. Seeing subtraction as finding the difference, not just take-away.

Often, pupils will only see subtraction as 'take-away'. This can lead to inefficient methods when subtracting. If pupils understand that 'subtraction' means 'difference' they can use addition to 'count on to find the difference'. Many pupils find addition easier than subtraction.

4. Correct terminology: exchanging is used instead of the old terminology 'carrying'.

The vocabulary we use with pupils when modelling the column method is important so that it builds on the pupils' place value understanding. When exchanging, all staff need to model placing the exchange underneath the calculation as pictured below.



Multiplication and Division

1. Mental / informal methods before written methods when solving problems.

When solving multiplication or division calculations, it is important for pupils to consider whether they can solve it in their heads with jottings (mentally) rather than using a formal written method. There are a few different strategies pupils may choose to use. Encouraging pupils to talk through the method they are using (or are considering using) when approaching a problem. This will help develop their mathematical language and reasoning skills. It is important when teaching and modelling the formal method for multiplication and division that the correct language is used, and we focus on the value of the digits throughout. As with addition and subtraction, pupils should not think they are only ever working with ones.

2. Understanding the relationship between multiplication and division.

It is important that pupils don't see multiplication and division as two separate things. Instead, we want to draw attention to the relationship between them. We can help pupils to see the

connections by using arrays, fact triangles or diagrams / scenarios and these are used throughout the sessions. To reinforce the knowledge of the relationship between multiplication and division, you can encourage pupils to check division calculations by using multiplication and vice versa. Use of this strategy becomes particularly useful when solving missing number problems and will help students to solve more complex calculations, such as problems which require the children to 'work backwards'.

3. Correct terminology: exchanging is used with both multiplication and division.

As with addition and subtraction, it is useful to use consistent language with multiplication and division. This will reinforce the concept of multiplication as repeated addition and division as repeated subtraction. It is important when teaching and modelling the formal method for division that the correct language is used, and we focus on the value of the digits throughout. Division is the only operation where we start with the most significant digit first (ie. the highest value digit.)

Progression of skills- Addition

Reception	• Conceptually subitise to 5 • 1 more • Notice the composition of numbers within 10 • Combine 2 groups • Add more
Year 1	• Add together • Add more • Bonds within 10 • Related facts within 20 • Missing numbers

Year 2	• Add 1s to any number (related facts) • Add three 1-digit numbers • Add across a 10 • Add multiples of 10 • Add 10s to any number • Add two 2-digit numbers (not across a ten) • Add two 2-digit numbers (across a ten) • Missing numbers
Year 3	• Add 1s, 10s and 100s to a 3-digit number • Add two numbers (no exchange) • Add two numbers across a 10 or 100 • Complements to 100 • Add fractions with the same denominator within 1 whole • Calculate the duration of events

Year 4	• Add 1s, 10s and 100s to a 4-digit number • Add up to two 4-digit numbers • Add decimal numbers in the context of money • Add fractions and mixed numbers with the same denominator beyond 1 whole
Year 5	• Add using mental strategies • Add whole numbers with more than 4 digits • Add decimals with up to 2 decimal places • Complements to 1 • Add fractions with denominators that are a multiple of one another
Year 6	• Add integers up to 10 million • Add decimals with up to 3 decimal places • Order of operations • Negative numbers • Add fractions

Progression of skills- Subtraction

Reception	• Conceptually subitise to 5 • 1 less • Notice the composition of numbers within 10 • Partition • Take away
Year 1	• Find a part • Take away • Bonds within 10 • Related facts within 20 • Missing numbers

Year 2	• Subtract 1s from any number (related facts) • Subtract across a 10 • Subtract multiples of 10 • Subtract 10s from any number • Subtract two 2-digit numbers (not across a ten) • Subtract two 2-digit numbers (across a ten) • Missing numbers
Year 3	• Subtract 1s, 10s and 100s from a 3-digit number • Subtract two numbers (no exchange) • Subtract two numbers across a 10 or 100 • Complements to 100 • Subtract fractions with the same denominator within 1 whole

Year 4	• Subtract 1s, 10s, 100s and 1,000s from a 4-digit number • Subtract up to two 4-digit numbers • Subtract decimal numbers in the context of money • Subtract fractions and mixed numbers with the same denominator
Year 5	• Subtract whole numbers with more than 4 digits • Subtract using mental strategies • Subtract decimals with up to 2 decimal places • Complements to 1 • Subtract fractions with denominators that are a multiple of one another
Year 6	• Subtract integers up to 10 million • Subtract decimals with up to 3 decimal places • Order of operations • Negative numbers • Subtract fractions

Progression of skills- Multiplication

Reception	• Double to 10 • Make equal groups
Year 1	• Count in 2s, 5s and 10s • Add equal groups • Make arrays • Make doubles

Year 2	• Link repeated addition and multiplication • Use arrays • Double • The 2 times-table • The 10 times-table • The 5 times-table • Missing numbers
Year 3	• The 3 times-table • The 4 times-table • The 8 times-table • Related facts • Multiply a 2-digit number by a 1-digit number - no exchange • Multiply a 2-digit number by a 1-digit number - with exchange • Scaling • Correspondence problems

Year 4	• Times-table facts to 12 × 12 • Multiply by 1 and 0 • Multiply 3 numbers • Factor pairs • Multiply by 10 and 100 • Related facts • Mental strategies • Multiply a 2 or 3-digit number by a 1-digit number • Scaling • Correspondence problems

Year 5	• Multiples and factors • Square and cube numbers • Multiply numbers up to 4 digits by a 1-digit number • Multiply numbers up to 4 digits by a 2-digit number • Multiply by 10, 100 and 1,000 • Mental strategies • Multiply fractions by a whole number • Multiply mixed numbers by a whole number • Find the whole

Year 6	• Multiply numbers up to 4 digits by a 2-digit number • Multiply by 10, 100 and 1,000 • Order of operations • Multiply decimals by integers • Multiply fractions by fractions • Find the whole • Calculations involving ratio

Progression of skills- Division

Reception	• Sharing • Grouping
Year 1	• Make equal groups – grouping • Make equal groups – sharing • Find a half • Find a quarter

Year 2	• Divide by 2 • Divide by 10 • Divide by 5 • Missing numbers • Unit fractions • Non-unit fractions
Year 3	• Divide by 3 • Divide by 4 • Divide by 8 • Related facts • Divide a 2-digit number by a 1-digit number - no exchange • Divide a 2-digit number by a 1-digit number - with remainders • Unit fractions of a set of objects • Non-unit fractions of a set of objects

Year 4	• Division facts to 12 × 12 • Divide a number by 1 and itself • Related facts • Divide a 2 or 3-digit number by a 1-digit number • Divide by 10 and 100
Year 5	• Mental strategies • Divide numbers up to 4 digits by a 1-digit number • Divide by 10, 100 and 1,000 • Fraction of an amount

Year 6	• Short division • Mental strategies • Long division • Order of operations • Divide by 10, 100 and 1,000 • Divide decimals by integers • Decimal and fraction equivalents • Divide a fraction by an integer • Fraction of an amount • Calculate percentages • Calculations involving ratio