Northcote Primary School
Year 3 Mathematics Overview

This overview outlines the coverage for Year 3. The curriculum will be adapted to meet the needs of the children in each class to ensure that all learners are supported and challenged. A variety of reasoning and problem-solving opportunities are provided each week.

Year 3, Autumn Term 1

Wk	Strands	Progression Focus	Weekly Summary
1	**MAS** Mental addition and subtraction; **PRA** Problem solving, reasoning and algebra	**Addition and subtraction** Weeks 1 and 2 focus on revising the understanding and use of place value and number facts in mental addition and subtraction.	Use multiple of 5 and 10 bonds to 100 to solve additions and subtractions; add and subtract 1-digit numbers to and from 2-digit numbers
2	**NPV** Number and place value; **MAS** Mental addition and subtraction; **PRA** Problem solving, reasoning and algebra	**Addition and subtraction** Weeks 1 and 2 focus on revising the understanding and use of place value and number facts in mental addition and subtraction.	Compare and order 2- and 3- digit numbers; count on and back in 10s and 1s; add and subtract 2-digit numbers; solve problems using place value
3	**MMD** Mental multiplication and division; **PRA** Problem solving, reasoning and algebra	**Multiplication and division** Week 3 focuses on key multiplication and division facts and on doubling and halving.	Know multiplication and division facts for the 5, 10, 2, 4 and 3 times-tables; doubling and halving
4	**PRA** Problem solving, reasoning and algebra; **MEA** Measurement; **GPS** Geometry: properties of shapes; **STA** Statistics	**Time; 3D shapes** Week 4 focuses on telling the time with increasing accuracy, and identifying, describing and sorting 3D shapes.	Know and understand the calendar, including days, weeks, months, years; tell the time to the nearest 5 minutes on analogue and digital clocks; know the properties of 3D shapes
5	**NPV** Number and place value; **MAS** Mental addition and subtraction; **PRA** Problem solving, reasoning and algebra	**Place value; difference** Week 5 focuses on placing 2- and 3-digit numbers on a line and using an empty number line to find differences.	Comparing, ordering and understanding place value of 2- and 3-digit numbers; subtracting from 2-digit numbers; using prediction to estimate calculations

Year 3, Autumn Term 2

Wk	Strands	Progression Focus	Weekly Summary

6	**MMD** Mental multiplication and division; **FRP** Fractions, ratio and proportion; **PRA** Problem solving, reasoning and algebra	**Multiplication and division; fractions** Week 6 focuses on doubling and halving, and understanding a half and other unit fractions.	Doubling and halving numbers up to 100 using partitioning; understanding fractions and fractions of numbers
7	**MEA** Measurement; **PRA** Problem solving, reasoning and algebra; **MAS** Mental addition and subtraction	**Place value in addition and subtraction** Week 7 focuses on understanding place value, including in money, and on using partitioning in adding and subtracting.	Use money to add and subtract and record using the correct notation and place value; add and subtract 2-digit numbers using partitioning; add three 2-digit numbers by partitioning and recombining.
8	**MEA** Measurement; **GPS** Geometry: properties of shapes	**Length; capacity** Week 8 focuses on the SI units and measurement of length and capacity.	Choose an appropriate instrument to measure a length and use a ruler to estimate, measure and draw to the nearest centimetre; know 1 litre = 1000 ml; estimate and measure capacity in millilitres
9	**NPV** Number and place value; **MAS** Mental addition and subtraction; **PRA** Problem solving, reasoning and algebra	**Place value; difference** Week 9 focuses on using number lines to compare and round numbers and to find differences.	Place 2- and 3-digit numbers on a number line; round 3-digit numbers to nearest 100; use counting up to do mental subtractions with answers between 10 and 20, 10 and 30, and either side of 100
10	**MMD** Mental multiplication and division; **PRA** Problem solving, reasoning and algebra; **MAS** Mental addition and subtraction	**Revision** Week 10 provides revision of key calculation strategies and their use in word problems.	Revise times-tables learned and derive division facts; perform division with remainders; choose a mental strategy to solve additions and subtractions; solve word problems

Year 3, Spring Term 1

Wk	Strands	Progression Focus	Weekly Summary
11	**NPV** Number and place value; **MAS** Mental addition and subtraction; **PRA** Problem solving, reasoning and algebra	**Place value** Week 11 focuses on embedding a thorough understanding of place value and properties of numbers.	Rehearse place value in 3-digit numbers, order them on a number line and find a number in between; compare number sentences; solve additions and subtractions using place value; multiply and divide by 10 (whole number answers); count in steps of 10, 50 and 100.
12	**MAS** Mental addition and subtraction; **MMD** Mental multiplication and division; **STA** Statistics; **PRA** Problem solving, reasoning and algebra	**Addition; times tables** Week 12 focuses on using partitioning in addition; and on the 2, 3, 4, 5, 8 and 10 times tables.	Add pairs of 2-digit numbers using partitioning (crossing 10s, 100 or both) and then extend to add two 3-digit numbers (not crossing 1000); recognise and sort multiples of 2, 3, 4, 5, and 10; double the 4 times-table to find the 8 times-table; derive division facts for the 8 times-table; multiply and divide by 4 by doubling or halving twice
13	**FRP** Fractions, ratio and proportion; **PRA** Problem solving, reasoning and algebra	**Fractions** Week 13 focuses on fractions as numbers, finding equivalent fractions, placing fractions on a line, and on fractions as operators, finding fractions of amounts.	Identify 1/2s, 1/3s, 1/4,s 1/6s, and 1/8s; realise how many of each make a whole; find equivalent fractions; place fractions on a 0 to 1 line; find fractions of amounts

14	**GPS** Geometry: properties of shapes; **GPD** Geometry: position and direction; **MEA** Measurement	**Angles; 2D shapes** Week 14 focuses on angles, including right angles, measurement of turn, and the ° symbol; and on properties of 2D shapes and finding perimeters.	Recognise right angles and know they are 90°; understand angles are measured in degrees; recognise ° as the symbol for the measurement of degrees; name and list simple properties of 2D shapes; begin to understand and use the term perimeter to mean the length/distance around the edge (border) of a 2D shape; begin to calculate using a ruler; know a right angle is a quarter turn; know 360° is a full turn; begin to understand angles and identify size of angles in relation to 90°
15	**NPV** Number and place value; **MAS** Mental addition and subtraction	**Addition and subtraction** Weeks 15, 16 and 17 focus on the way a secure understanding of place value underpins rounding, mental addition and subtraction, and column methods of addition.	Place 3-digit numbers on empty 100 number lines; begin to place 3-digit numbers on 0-1000 landmarked and empty number lines; round 3-digit numbers to the nearest ten and to the nearest hundred; use counting up as a strategy to perform mental subtraction (Frog); subtract pounds and pence from five pounds; use counting up (Frog) as a strategy to perform mental subtraction of amounts of money; subtract pounds and pence from ten pounds

Year 3, Spring Term 2

Wk	Strands	Progression Focus	Weekly Summary
16	**NPV** Number and place value; **PRA** Problem solving, reasoning and algebra; **WAS** Written addition and subtraction	**Addition and subtraction** Weeks 15, 16 and 17 focus on the way a secure understanding of place value underpins rounding, mental addition and subtraction, and column methods of addition.	Understand place-value in 3-digit numbers; separate 3-digit numbers into hundreds, tens, and ones; add two 3-digit numbers using vertical written addition (expanded); add 2- and 3- digit numbers using vertical written addition (expanded)
17	**MAS** Mental addition and subtraction; **WAS** Written addition and subtraction; **PRA** Problem solving, reasoning and algebra	**Addition and subtraction** Weeks 15, 16 and 17 focus on the way a secure understanding of place value underpins rounding, mental addition and subtraction, and column methods of addition.	Add two 2-digit numbers mentally; add 2-digit to 3-digit numbers mentally using place value and rounding; add two 3-digit numbers using expanded written method (answers under 1000); begin to move tens and hundreds moving towards formal written addition; add two 3-digit numbers using expanded column addition; investigate patterns in numbers when adding them; choose to solve addition using a mental method or expanded column addition (written method)
18	**MEA** Measurement	**Time** Week 18 focuses on time-telling on digital and analogue clocks, and the calculation of time intervals; these are used in solving word problems.	Tell the time to the nearest minute on analogue and digital clocks (minutes past and minutes to); time events in minutes and seconds; find a time after a given interval (not crossing the hour); calculate time intervals; solve word problems involving time
19	**NPV** Number and place value; **MAS** Mental addition and subtraction; **PRA** Problem solving, reasoning and algebra	**Place value; subtraction** Week 19 focuses on using number lines to facilitate an understanding of place value in 3-digit numbers, and as an efficient method of performing subtraction involving 3-digit numbers.	Order 3-digit numbers and find numbers between; solve subtractions of 3-digit - 3-digit numbers using counting up (Frog); use counting up and counting back as strategies to perform mental subtractions; choose to solve a given subtraction by counting up or counting back
20	**MMD** Mental multiplication and division; **WMD** Written multiplication and division; **PRA**	**Multiplication and division**	Double and halve numbers up to 100 by partitioning; solve word problems involving doubling and halving; multiply numbers between 10 and 25 by 1-digit

	Problem solving, reasoning and algebra	Week 20 focuses on developing multiplication strategies using doubling and halving and the grid method; division is related to multiplication and this relationship is used to solve missing number problems.	numbers using the grid method; divide multiples of 10 by 1-digit numbers using known tables facts; see the relation between multiplication and division

Year 3, Summer Term 1

Wk	Strands	Progression Focus	Weekly Summary
21	**MAS** Mental addition and subtraction; **PRA** Problem solving, reasoning and algebra; **FRP** Fractions, ratio and proportion	**Addition and subtraction** Week 21 focuses on securing understanding of addition and subtraction and rehearsing sound mental strategies, extending to adding and subtracting fractions.	Add 3-digit and 1-digit numbers mentally, using number facts; subtract 1-digit numbers from 3-digit numbers mentally using number facts; add and subtract multiples of 10 by counting on and back in 10s and using number facts to cross 100s; compare and order fractions with the same denominator; begin to recognise equivalences of 1/2; add and subtract fractions with the same denominator
22	**MMD** Mental multiplication and division; **PRA** Problem solving, reasoning and algebra; **WMD** Written multiplication and division	**Multiplication and division** Weeks 22 and 23 focus on developing understanding and skills in multiplication and division, including using tables facts to solve scaling problems, multiplications using the grid method, and divisions using chunking.	Use function machines to multiply by 2, 3, 4, 5 and 8 and understand the inverse; use scaling to multiply heights and weights by 2, 4, 8, 5 and 10; use known facts to multiply multiples of 10 by 2, 3, 4 and 5; multiply numbers between 10 and 30 by 3, 4 and 5 using the grid method; multiply 2-digit numbers by 3, 4, 5 and 8 using the grid method
23	**MMD** Mental multiplication and division; **WMD** Written multiplication and division	**Multiplication and division** Weeks 22 and 23 focus on developing understanding and skills in multiplication and division, including using tables facts to solve scaling problems, multiplications using the grid method, and divisions using chunking.	Divide without remainders, just beyond the 12th multiple; division using chunking, with remainders; use the grid method to multiply 2-digit numbers by 3, 4 ,5 and 8; begin to estimate products
24	**STA** Statistics; **PRA** Problem solving, reasoning and algebra; **MEA** Measurement	**Statistics and data; weight** Week 24 focuses on drawing and interpreting pictograms and bar graphs with different scales, and on using these to record and analyse data in the context of measuring weights.	Draw and interpret bar charts and pictograms where one square/symbol represents two units; compare and measure weights in multiples of 100g; know how many grams are in a kilogram; estimate and weigh objects to the nearest 100g; draw and interpret bar charts where one square represents one hundred units
25	**MAS** Mental addition and subtraction; **WAS** Written addition and subtraction; **PRA** Problem solving, reasoning and algebra	**Addition and subtraction** Weeks 25, 26 and 27 focus on mental and written addition and subtraction, including mental strategies, column addition, subtracting by counting up, and choosing appropriate methods to solve problems.	Add 3-digit and 2-digit numbers using mental strategies; add two 3-digit numbers using mental strategies or by using column addition; use reasoning, trial and improvement to solve problems involving more complex addition

Year 3, Summer Term 2

Wk	Strands	Progression Focus	Weekly Summary
26	**WAS** Written addition and subtraction; **MAS** Mental addition and subtraction	**Addition and subtraction** Weeks 25, 26 and 27 focus on mental and written addition and subtraction, including mental strategies, column addition, subtracting by counting up, and choosing appropriate methods to solve problems.	Use column addition to add three 2- and 3-digit numbers together and four 2- and 3-digit numbers together; subtract 3-digit numbers using counting up; solve word problems choosing an appropriate method
27	**WAS** Written addition and subtraction; **MEA** Measurement; **MAS** Mental addition and subtraction; **PRA** Problem solving, reasoning and algebra	**Addition and subtraction** Weeks 25, 26 and 27 focus on mental and written addition and subtraction, including mental strategies, column addition, subtracting by counting up, and choosing appropriate methods to solve problems.	Add 3-digit numbers using column addition; solve problems involving measures; solve subtractions of 3-digit numbers using counting up on a line and work systematically to find possibilities; choose an appropriate strategy to solve addition or subtraction
28	**GPS** Geometry: properties of shapes; **MEA** Measurement	**2D shapes; time** Week 28 focuses on developing understanding and vocabulary of shape and angle, including measuring perimeters; and on telling the time 5, 10, 20 minutes later using am/pm and 24-hour clock.	Identify, name and draw horizontal, vertical, perpendicular, parallel and diagonal lines, angles and symmetry in 2D shapes; measure the perimeter of 2D shapes by counting and measuring with a ruler; tell the time on analogue and digital clocks to the minute, begin to tell the time 5, 10, 20 minutes later, recognise am and pm and 24-hour clock times
29	**WMD** Written multiplication and division; **PRA** Problem solving, reasoning and algebra; **MMD** Mental multiplication and division; **FRP** Fractions, ratio and proportion; **DPE** Decimals, percentages and their equivalence to fractions	**Multiplication and division; fractions** Week 29 focuses on consolidating written multiplication and division strategies, securing understanding of the relation between division and fractions, and moving to finding tenths of amounts.	Use the grid method to multiply 2-digit numbers by 3, 4, 5, 6 and 8; estimate products; divide using chunking, with and without remainders; decide whether to use multiplication or division to solve word problems; recognise tenths and equivalent fractions; find one-tenth and several tenths of multiples of 10 and begin to find one-tenth of single-digit numbers
30	**MAS** Mental addition and subtraction; **WAS** Written addition and subtraction; **PRA** Problem solving, reasoning and algebra; **WMD** Written multiplication and division; **MMD** Mental multiplication and division	**Revision** Week 30 focuses on rehearsing and consolidating mental and written calculation skills in addition, subtraction, multiplication and division.	Revise column addition for adding three 3-digit numbers; revise mental strategies for addition; subtract 3-digit numbers using written and mental methods; find change using counting up; check subtraction using addition; multiply numbers between 10 and 40 by 1-digit numbers using grid method; solve division problems just beyond the known tables facts