Larkholme Primary School

Maths Fluency Progression

Maths Fluency Reception

Counting	Rapid recall	Exploring Number
• Count forwards and backwards within 10 • Count forwards and backwards within 20 and then beyond • Subitise up to 5	• Automatically recall number bonds up to 5 (including subtraction facts) and then some bonds to 10 • Doubles up to double 5	• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Maths Fluency Year 1

Counting and Place Value	Rapid Recall	Addition and Subtraction (Mental calculations)
• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to 100 in numerals • count in multiples of twos, fives and tens • given a number, identify one more and one less • read and write numbers from 1 to 20 in numerals and words.	• Represent and use number bonds and related subtraction facts within 10 e.g. What is 6 + 3 = • Recall number bonds for all numbers to 10 • Represent and use number bonds and related subtraction facts within 20 e.g. What is 9 + 7 = • Begin to recall number bonds for all numbers to 20 • Doubles of all numbers to double 10 • Halves of even numbers up to 20	**Add and Subtract numbers to 10** • Add together • Add more • Finding a part (missing number) • Subtract by taking away • Subtract by partitioning • Subtract by counting back • Find the difference **Add and Subtract numbers to 20** • Add by counting on • Find and make number bonds • Add by making 10 • Subtraction not crossing 10 • Subtraction crossing 10 (taking away, partitioning, difference)
		Other
		• Days of the week • Months of the year • Subitising up to 5 accurately

Maths Fluency Year 2

Counting and Place Value	Rapid Recall	Addition and Subtraction (Mental Calculations)
• Counting in steps of 2, 3, 5 and 10 forwards and backwards • Counting forwards and backwards in 10's from any number • Recognise the place value of each digit in a two-digit number (tens, ones) • Compare and order numbers from 0 up to 100; use <, > and = signs • Read and write numbers to at least 100 in numerals and in words	• recall and use addition and subtraction facts for all numbers to 20 fluently, and derive and use related facts up to 100 • Doubles to double 10 and simple 2-digit numbers by partitioning • Halves of even numbers up to 20 • Find $\frac{1}{4}$ by halving and halving again • recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	• Adding 2 single digit numbers (bridging through ten) e.g. 8 + 7 • A 2-digit number and ones (no bridging +/-) e.g. 24 + 5, 38 – 6 • A 2-digit number and ten (+ / -) e.g. 34 + 10, 68 - 10 • A 2-digit number and a multiple of ten (+/-) e.g. 18 + 30, 56 - 40 • A 2-digit number add a single digit – with bridging e.g. 18 + 7, 35 + 7 • A 2-digit number subtract a single digit number – with bridging e.g. 24 – 6, 33 – 8, • A 2-digit number add a 2-digit number without bridging – e.g. 23 + 16 • A 2-digit number subtract a 2-digit number without bridging – e.g. 47 - 25 • Number bonds to 100 (tens and ones) • Add 3 single digit numbers (bonds to 10, doubles and near doubles) • Double and halve 2-digit numbers by partitioning (doubling diamond) • Add and subtract 7, 8, 9, 17, 18, 19 etc by rounding and adjusting
		Other
		• Metric conversions – 1m = 100cm • 60 mins = 1 hour • 24 hours = 1 day

Maths Fluency Year 3

Counting	Rapid Recall	Mental Calculations		
Find 1, 10 or 100 more or less than a given number Count from 0 in multiples of 4, 8, 50 and 100 Count on or back in tens or ones Count up and down in tenths	Recall addition and subtraction facts for 100 (multiples of 5 and 10) Derive and use addition and subtraction facts for multiples of 100 that total 1000 Recall and use multiplication division facts for the 3, 4 and 8 multiplication tables. Metric conversions – 100 = 1m Metric conversions – 10mm = 1cm Metric conversions – 1000g = 1kg Metric conversions 500g = ½ kg Metric conversions – 1000ml = 1 litre Metric conversions 500ml = ½ litre	<u>Addition and Subtraction</u> Find pairs of numbers that total 100 Add a three-digit number and ones (not crossing 10) Add a three-digit number and one-digit numbers (crossing 10) Subtract a one-digit number from a three-digit number (not crossing 10) Subtract a one-digit number from a three-digit number (crossing 10) Add a three-digit number and a multiple of 10 not crossing 100 boundary (exchange) Add a three-digit number and a multiple of 10 crossing 100 boundary (exchange) Subtract a multiple of 10 from a three-digit number not crossing 100 boundary (exchange) Subtract a multiple of 10 from a three-digit number crossing 100 boundary (exchange) Add a three-digit number and a multiple of 100 Subtract a multiple of 100 from a three-digit number	<u>Multiplication and Division</u> Double two-digit numbers Halve even numbers to 100 Multiply a two-digit number by a one-digit number, e.g. 34 x 5 Divide a two-digit number by a one-digit number by partitioning	<u>Fractions</u> Add and subtract fractions with the same denominator within one whole Compare and order unit fractions and fractions with the same denominators Find a third and a quarter using knowledge of times tables

Maths Fluency Year 4

Counting	Rapid Recall	Mental Calculations		
Count in multiples of 6, 7, 9, 25 and 1000 Count backwards through zero to include negative numbers Count up and down in hundredths Find 0.1, 1, 10, 100 or 1000 more or less than a given number	Revision of all facts learnt before from YR to Y3 Recall multiplication and division facts for multiplication tables up to 12 x 12 Decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ or any tenths or hundredths Metric conversions Number of days in each month of the year	<u>Addition and Subtraction</u> Add or subtract 1s 10s, 100s 1000s to or from any number up to 10,000 Add or subtract any pair of two-digit numbers, e.g. 38 + 85, 92 – 47 Find out what must be added to/subtracted from any two- or three-digit number to make the next higher/lower multiple of 10 or 100, e.g. 374 + ? = 400, 826 - ? = 800 Add a three-digit number to a two or three-digit number not crossing the tens or hundreds boundary Subtract a three-digit number from a two or three-digit number not crossing the tens or hundreds boundary Add two four-digit numbers with no exchange Subtract two four-digit numbers with no exchange Know which method to use to efficiently) add or subtract whole numbers with up to four digits (See mental calculations policy)	<u>Multiplication and Division</u> Multiplying by 0 and 1 and divide by 1 Multiply by 10 and 100 Divide three or four-digit numbers (multiples of 10) by 10 Divide three or four-digit numbers (multiples of 100) by 10 Multiply together three single-digit numbers Recognise and use factor pairs and commutativity in mental calculations Use efficient mental calculations to multiply two-digit numbers by one-digit numbers Double and halve any two-digit number Double any multiple of 10 to 500, e.g. 380 x 2, and find all the corresponding halves, e.g. 760 ÷ 2, 130 ÷ 2	<u>Fractions and Decimals</u> Divide a one or two-digit number by 10 and 100 Add and subtract fractions with the same denominator Round decimals with one decimal place to the nearest whole number

Maths Fluency Year 5

Counting (and ALL previous years)	Rapid Recall (and ALL previous years)	Mental Calculations (and ALL previous years)		
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 Count forwards and backwards with positive and negative whole numbers including through zero Count forwards or backwards in fraction steps and place missing values on a number line Count forwards or backwards in decimal steps and place missing values on a number line Find 0.01, 0.1, 1, 10, 100, 1000 and other powers of 10 more or less than a given number	Know decimal and percentage equivalents for 1/2, 1/4, 1/5, 2/5 and 4/4 Recall prime numbers up to 19 Recall square (^{2}) numbers up to 12 x 12 Recall percentages as fractions with denominators of 100, e.g. 71% = 71/100 Recall decimal numbers as fractions, e.g. 0.71 = 71/100 Metric conversions	<u>Addition and Subtraction</u> **Addition and subtraction strategies from previous years and:** Round numbers to estimate and approximate calculations Add and subtract multiples of thousands, hundreds, tens and ones Add or subtract any pair of three-digit multiples of 10, e.g. 570 + 250, 620 – 380 Add and subtract a four-digit number and a near multiple of 1000 by rounding and adjusting e.g. 5001-1997	<u>Multiplication and Division</u> Recall related tables facts for multiples of 10, e.g. 30 x 4 = 120, using the related fact 3 x 4 = 12 OR 7200 ÷ 9 related to 72 ÷ 9 Multiply and divide whole numbers up to 1 million and decimals by 10, 100 and 1000 Identify and use: Multiples Factors Common Factors Prime Numbers Cube Numbers Double or halve numbers with up to 3-digits including those with two decimal places Multiply and divide numbers mentally drawing upon known facts	<u>Fractions, Decimals and Percentages</u> Find complements that sum to make 1, with numbers to **three** decimal places, and e.g. 0.45 + __ = 1 Find complements that sum to make 10, with numbers to **two** decimal places 4.36 + __ = 10 Add or subtract any pair of decimal number each with units and tenths, or each with tenths and hundredths, e.g. 5.7 + 2.5, 0.63 – 0.48 Add and subtract fractions with the same denominator and denominators that are multiples of the same number Round decimals with two decimal places to the nearest whole number and to one decimal place Find 50%, 25%, 10% of small whole numbers or quantities, e.g. 25% of £8

Maths Fluency Year 6				
Counting	Rapid Recall	Mental Calculations		
Practise counting from ALL previous years up to 10 million Consolidate learning from year 5 work: Count forwards and back through zero (negative numbers) Count forwards or backwards in fraction steps and place missing values on a number line Count forwards or backwards in decimal steps and place missing values on a number line Find 0.01, 0.1, 1, 10, 100, 1000 and other powers of 10 more or less than a given number	Know by heart all the squares and square roots of numbers to 12 x 12 Recall related facts that link to tables Recognise and recall factors of numbers up to 144 Recall fraction, decimal and percentage equivalents of halves, quarters, thirds, fifths, tenths and hundredths Recall and use equivalences between simple fractions, decimals and percentages Metric conversions	<u>Addition and Subtraction</u> Use knowledge of the order of operations to carry out calculations using the four operations Add or subtract the nearest multiple of 10 100, 1000 or 10,000, then adjust Add or subtract a multiple of 1 or 10 and adjust	<u>Multiplication and Division</u> Consolidate using known and related facts to multiply and divide Multiply or divide whole numbers up to 10 million and decimals to three decimal places by 10, 100 or 1000 To double or halve 3-digit numbers including decimals to 3 d.p. Use factors to divide Use known facts to multiply a number up to 3 decimals places by a whole number, (e.g. 0.08 x 7 = 0.56)	<u>Fractions, Decimals and Percentages</u> Find any multiple of 10% of a whole number or quantity e.g. 70% of £20, 30% of 5 kg, 40% of 2 metres Use doubling and halving to find 5% and 20% Add and subtract fractions with different denominators Multiply pairs of proper fractions Divide proper fractions by whole numbers