Mathematical Fluency & Key Instant Recall Facts Progression

At Farington Moss, St. Paul's we have introduced Key Instant Recall Facts (KIRFs) as a whole-school program for raising standards in Maths.

KIRFs are designed to support the development of the mental arithmetical skills that underpin much of the maths work in school. They are particularly useful when calculating, be it adding, subtracting, multiplying or dividing. An important part of maths development has always been rote learning of certain numeracy facts, for many years this has included practising times tables. More structure has been added to this throughout school with twice daily maths fluency sessions in every class.

Whilst children have a wide range of abilities in mathematics, the KIRFs are designed to be a set of facts that need to be learnt thoroughly as they build on each other year on year. Children must aim to know their KIRF with instant recall.

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Reception						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Name numbers in order to 10 and compare 2 numbers by saying which is more or less.	Recognise quantities, without counting, up to 5. (Subitise)	Say 1 more than a given number up to 10.	Partition numbers to 5 into two groups.	Count on and back to 20 & beyond. Recall number bonds to 10.	Place value to 20. Recall doubles to 5+5.

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Year 1 Fluency					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
- Say one more/ one less to 100. - Read and write numbers from 1 to 20 (numerals and words). - Ordinal numbers. Use the language of: equal to, more than, less than (fewer), most, least. - Use number bonds and subtraction facts to 20. - Consolidation of fluency related to current topic and the children's needs.	- Reading and writing numbers to 50. - Counting in 2s - Say one more/one less to 100. - Comparing numbers. - Consolidation of fluency related to current topic and the children's needs.	- Counting in 10s - Counting in 2s - Doubling – understanding the basic concept. - Reading and writing numbers to 100. - Count to and across 100, forwards and backwards from any number. - Consolidation of fluency related to current topic and the children's needs.	- Patterns – creating and completing given patterns. - Halving – to understand the basic concept. - Recognise half and quarter of an object, shape or quantity. - Consolidation of fluency related to current topic and the children's needs.	- Use the number bonds and subtraction facts to 10. - Using the language: before and after, day, week, month and year. - Sequence events in chronological order. - Read time to hour & half past. - Consolidation of fluency related to current topic and the children's needs.	- Count in different multiples including ones, twos, fives and tens. - Use the number bonds and associated subtraction facts to 10. - Consolidation of fluency related to current topic and the children's needs.
Year 1 KIRFs					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
- Count up to 20 Count on and back to 20 -One more than and one less than numbers up to 10. - Add and subtract one digit numbers to 10, including zero.	I know number bonds for each number to 6.	I know doubles and halves of numbers to 10.	I know number bonds to 10.	I can tell the time – to the nearest hour/half hour.	I know my number bonds for each number to 10.

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Year 2 Fluency					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
- Reading and writing numbers to 100 in numerals and words. - Use <, > and = to compare and order numbers to 100. -Partitioning – recognise place value of any 2 digit number. - Recall and use +/- facts to 20. - 10 more/less than any given number. - Consolidation of fluency related to current topic and the children's needs.	- Counting in 2s, 5s and 10s from any given numbers (forwards and backwards) - Recall and use multiplication and division facts for 2, 5 and 10 tables. - Recall and use +/- facts to 20 - Recall and use inverse (+/-) - Consolidation of fluency related to current topic and the children's needs.	- Classifying/sorting odd and even numbers - Counting in 2s, 5s and 10s - Using <, > and = to compare numbers to 100. - Consolidation of fluency related to current topic and the children's needs.	- Halve simple numbers via partitioning - Recognise, find, name and write 1/3; ¼; 2/4; ¾ - Write and recognise equivalence of simple fractions. - Consolidation of fluency related to current topic and the children's needs.	- Tell time to five minutes, including quarter past/to - Fluency based on the children's needs with the SATS in mind.	- Reading and writing numbers to a hundred (numerals and words). - Comparing numbers to 100 - Doubling simple numbers via partitioning. - Consolidation of fluency related to current topic and the children's needs.
Year 2 KIRFs					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
I can count on and back in 10s and 1s from any given number (below 3 digits)	I know doubles and halves of numbers to 20	I know the multiplication and division facts for the 10 times table	I know the multiplication and division facts for the 2 times table.	I can tell the time - To the nearest 5minutes.	I know the multiplication and division facts for the 5 times table.

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Year 3 Fluency					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
- 10 or 100 more/ less than a given number. - Read and write numbers to 1000 in digits and words. - Compare and order numbers to 1000 using <, > and = - Recognise place value of any 3-digit number. - Consolidation of fluency related to current topic and the children's needs.	- Count from 0 in multiples of 4, 8, 50 and 100. - Recall and use multiplication and division facts for 3, 4 and 8 tables. - Estimate and use inverses to check. - Consolidation of fluency related to current topic and the children's needs.	- Multiplying and dividing by 10. - Comparing using <, > and = - Counting in tenths. - Fractions on a number line. - Fractions of a set of objects. - Consolidation of fluency related to current topic and the children's needs.	- Count up/down in tenths. - Compare and order fractions with the same denominator. - Add and subtract fractions with the same denominator within one whole. - Consolidation of fluency related to current topic and the children's needs.	- To multiply and divide by 100 - Know days in each month and the number of seconds in a minute. - To tell the time using 12/24 hour clocks; using roman numerals. - Telling the time to the nearest minute. - Consolidation of fluency related to current topic and the children's needs.	- Recall and use multiplication and division facts for 3, 4 and 8 tables. - Number of degrees in a right angle. - Naming 2D and 3D shapes. - Consolidation of fluency related to current topic and the children's needs.
Year 3 KIRFs					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
I can count on and back in 10s and 1s from any given number (below 3 digits)	I can double and halve even numbers up to and including 100	- Count in 4s - I know the multiplication and division facts for the 4 times table (up to 12x4) - I can recall facts about duration of time - I know the multiplication and division facts for the 8 times table (up to 12x8)	- Count in 8s - I know the multiplication and division facts for the 8 times table (up to 12x8) - Add and subtract 3-digits and 1s - Add and subtract 3-digit and 10s - Add and subtract 3-digit and 100s - I can tell the time to the nearest 5 minutes	- I can count in steps of 50 and 100 from any number	- I know the multiplication and division facts for the 3, 4 and 8 times table

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Year 4 Fluency					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
- 1000 more/less - Read and write numbers to 1000/10,000 - Compare and order numbers beyond 1,000 - Count backwards through zero to negative numbers. - Rounding to nearest 10, 100, 1000. - Identify place value of each digit in a 4 digit number - Partitioning numbers in different ways - Read roman numerals to 100. - Consolidation of fluency related to current topic.	- Develop knowledge of multiplication to 12x12 - Count on in 10s from any given number - Consolidation of fluency related to current topic.	- Use the inverse operations to check answers to a calculation – number fact families. - Count up/down in hundredths - Add/subtract fractions with the some denominator. - Recognise and write equivalent fractions. - Consolidation of fluency related to current topic.	- Finding fractions of an amount - Fractions which make 1 whole - Consolidation of fluency related to current topic.	- Convert between £ and p - Convert between measures of time - Read, write and convert time between analogue and digital 12 and 24 hour clocks. - Draw the time accurately to the nearest minute using an analogue clock - Calculate durations of time using a number line - Consolidation of fluency related to current topic.	- To classify angles: acute, reflex, equilateral, obtuse - Order angles according to size - Label triangles based on their properties - Convert between
Year 4 KIRFs					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
I know number bonds to 100.	I know the multiplication and division facts for the 6 times table	I can recognise decimal equivalents of fractions.	I know the multiplication and division facts for the 9x and 11x tables	I know the multiplication and division facts for the 7x and 12x tables	I can multiply and divide single digit numbers by 10 and 100

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Year 5 Fluency					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
- Consolidate knowledge of times table facts to 12x12 - Compare and order numbers up to 1, 000,000 - Count forwards / backwards in steps of powers of 10 for any given number to 1,000,000. - Read and write numbers to 1000/10,000 - Rounding to nearest 10, 100, 1000 - Identify place value of each digit of any number to 1,000,000. - Recall prime numbers to 19. Read roman numerals up to 1000. - Consolidation of fluency related to current topic.	- Count forwards and backwards including negative numbers through zero. - Multiply and divide by 10,100 and 100 - Identify and write equivalent fractions. - Consolidation of fluency related to current topic.	- Compare and order numbers with up to 3 decimal places. - Count in hundredths and thousandths - Recognise and use thousandths. - Recognise mixed numbers and improper fractions and convert from one to another. - Multiply proper fractions and mixed number by whole numbers. - Consolidation of fluency related to current topic.	- Value of each digit in a number with up to 3dp. -Compare and order numbers with 3 decimal places. - Equivalence between fractions, decimals and percentages. - Consolidation of fluency related to current topic.	- List equivalent fractions. - Consolidation of fluency related to current topic.	- Find non-unit fractions of an amount. - Convert between units of measurement. - Consolidation of fluency related to current topic.
Year 5 KIRFs					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**

Mathematical Fluency & Key Instant Recall Facts Progression

I know the multiplication and division facts for all times tables up to 12 × 12	I know decimal number bonds to 1 and 10.	I can find factor pairs of a number	I can recall square numbers up to 122 and their square roots.	I know the decimal & percentage equivalents of the fractions ½ ¼ ¾ 1/3 2/3 tenths & fifths.	I can identify prime numbers up to 20

Year 6 Fluency					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
- Consolidate knowledge of times table facts to 12x12 - Compare and order numbers up to 10,000,000 - Read and write numbers to 10,000,000 - Rounding any whole number to a required degree of accuracy. - Identify place value of each digit in a number to 3dp. - Consolidation of fluency related to current topic.	- Multiply and divide by powers of 10. - Identify common factors, common multiples, square, cubed and prime numbers. - Multiply and divide by 10, 100 and 1000. - +/- fractions with different denominators and mixed numbers. - Partitioning numbers in different ways - Consolidation of fluency related to current topic.	- Multiply simple pairs of proper fractions, writing the answer in the simplest form. - Divide proper fractions by whole numbers. - Find equivalent fractions, decimals and percentages. - Calculate % of a whole number. - Consolidation of fluency related to current topic.	- Order fractions, decimals and percentages. - Multiplying 3 numbers. - Calculating percentages. - Consolidation of fluency related to current topic.	Fluency based on the children's needs with the SATS in mind.	- Consolidate knowledge of times table facts to 12x12 - Partitioning - Reading, writing and ordering numbers. - Rounding numbers to support estimation - Consolidation of fluency related to current topic.
Year 6 KIRF					
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**

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I know the multiplication and division facts for all times tables up to 12 × 12	I can identify common factors of a pair of numbers	I can convert between decimals, fractions and percentages	I can identify prime, and composite numbers up to 50.	Summer term revision • I know decimal number bonds to 1 & 10 • I know the multiplication & division facts for all times tables up to 12x12 • I can identify prime numbers to 20 • I can recall metric conversions • I can recall square numbers up to 12^2 & their square roots • I can find factor pairs of a number • I can identify common factors of a pair of numbers • I can convert between decimals, fractions and percentages • I can identify prime & composite numbers up to 50