

Maths Topic List – Autumn Term

	YEAR	TOPIC NAME	CURRICULUM COVERAGE	BIG FINISH What children need to be able to do by the end
EYFS	RECEPTION	Number: place value	Numbers to 5 Comparing groups	- Count forwards and backwards to 5. - Subitise numbers to 5. - Compare quantities of identical and non-identical objects.
		Number: addition and subtraction	Sorting Change within 5	- Sort into groups. - Find one more and one less than a number to 5.
		Measurement	Time	- Order key events in the day. - Use vocabulary related to time – yesterday, today, tomorrow. - Begin to measure time in simple ways.
KEY STAGE 1	YEAR 1	Number: place value	Numbers to 10, and then to 20	- Count to 10 and then to 20, forwards and backwards, from any given number. - Count, read and write numbers to 10 and then to 20, in numerals and words. - Find one more or one less than a number to 10 and then to 20. - Identify and represent numbers to 10 and then to 20, and use the language of equal to, more than, less than (fewer), most, least.
		Number: addition and subtraction	Change within 10	- Use number bonds and related subtraction facts within 10. - Read, write and interpret mathematical statements involving addition (+) subtraction (-) and equals (=) signs. - Add and subtract one digit numbers to 10, including zero. - Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.
		Geometry	Shape	Recognise and name common 2D and 3D shapes

	YEAR	TOPIC NAME	CURRICULUM COVERAGE	BIG FINISH What children need to be able to do by the end
KEY STAGE 1	YEAR 2	Number: place value	Count and represent numbers to 100 Tens and ones with a part-whole model Tens and ones using addition Use a place value chart Compare and order objects and numbers Count in 2s, 3s, 5s and 10s.	- Read and write numbers to at least 100 in numerals and words. - Recognise the place value of each digit in a 2 digit number. - Identify, represent and estimate numbers using different representations, including the number line. - Compare and order numbers from 0 to 100; use $<$, $>$ and $=$ signs. - Use place value and number facts to solve problems. - Count in 2s, 3s, 5s from 0, and in 10s from any number, forwards and backwards.
		Number: addition and subtraction	Fact families - addition and subtraction bonds to 20 Compare number sentences Related facts Bonds to 100 (10s, then 10s and 1s) Add and subtract 1s and 10s Add and subtract – 2 digit number and 1 digit number, crossing 10 and not crossing 10 Add and subtract – two 2 digit numbers, crossing 10 and not crossing 10 Add three 1-digit numbers	- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. - Add and subtract numbers using concrete objects, pictorial representations and mentally: including a two-digit number and ones, a two-digit number and tens, two two-digit numbers and three one-digit numbers. - Show that addition is commutative (can be done in any order) and subtraction is not. - Solve problems with addition and subtraction using concrete objects and pictorial representations including those involving numbers, quantities and measures. - Recognise and use the inverse relationship between addition and subtraction and use to check calculations and solve missing number problems.
		Number: multiplication and division	Recognise, make and add equal groups Multiplication sentences using the $\times$ symbol Multiplication sentences from pictures Use arrays 2, 5 and 10 times tables	- Recall and use multiplication and division facts from the 2, 5 and 10 times tables, including recognising odd and even numbers. - Calculate mathematical statements for multiplication within the multiplication tables and write them using the $\times$ and $=$ signs. - Solve problems involving multiplication using materials, arrays, repeated addition, mental methods and multiplication facts, including problems in context. - Show that multiplication of two numbers is commutative (can be done in any order).

LOWER KEY STAGE 2

YEAR 3

YEAR	TOPIC NAME	CURRICULUM COVERAGE	BIG FINISH What children need to be able to do by the end
YEAR 3	Number: place value	Hundreds Represent numbers to 1000 100s, 10s and 1s Number line to 1000 Find 1, 10, 100 more or less than a given number Compare objects and numbers to 1000 Order numbers Count in 50s	- Identify, represent and estimate numbers using different representations. - Find 10 or 100 more or less than a given number. - Recognise the place value of each digit in a three-digit number. - Compare and order numbers up to 1000. - Read and write numbers to 1000 in numerals and words. - Solve number problems and practical problems involving these ideas. - Count from 0 in multiples of 4, 8, 50 and 100.
	Number: addition and subtraction	Add and subtract multiples of 100 Add and subtract 3-digit and 1-digit numbers not crossing 10 Add 3-digit and 1-digit numbers crossing 10 Subtract a 1-digit number from a 3-digit number crossing 10 Add and subtract 3-digit and 2-digit numbers not crossing 100 Add 3-digit and 2-digit numbers crossing 100 Subtract a 2-digit number from a 3-digit number crossing 100 Add and subtract 100s Spot the pattern – making it explicit Add and subtract 2-digit and 3-digit numbers not crossing 10 or 100 Add a 2-digit number and a 3-digit number crossing 10 or 100 Subtract a 2-digit number from a 3-digit number crossing 10 or 100 Add two 3-digit numbers – without, then with exchange Subtract a 3-digit number from a 3-digit number without, then with exchange Estimate and check answers to calculations	- Add and subtract numbers mentally including a 3-digit number and ones, a three-digit number and tens, a three-digit number and hundreds. - Add and subtract with numbers up to three digits, using formal written methods of columnar addition and subtraction. - Estimate the answer to a calculation and use inverse operations to check answers. - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.
	Number: multiplication and division	Multiplication – equal groups Multiply and divide by 3 The 3 times table Multiply and divide by 4 The 4 times table Multiply and divide by 8 The 8 times table	- Count from zero in multiples of 4, 8, 50 and 100. - Recall and use multiplication and division facts for the 3, 4, and 8 multiplication tables - Write and calculate mathematical statements for multiplication and division using known multiplication tables, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. - Solve problems, including missing number problems involving multiplication and division including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

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LOWER KEY STAGE 2	YEAR 4	Number: place value	Roman numerals to 100 Round to the nearest 10, then 100 Count in 1000s 1000s, 100s, 10s and 1s Partitioning Number line to 1000 1000 more or less Compare and order numbers Round to the nearest 1000 Count in 25s Negative numbers	- Count in multiples of 25 and 1000. - Find 1000 more or less than a given number. - Recognise the place value of each digit in a four-digit number (1000s, 100s, 10s, 1s). - Order and compare numbers beyond 1000. - Round any number to the nearest 10, 100 and 1000. - Solve number and practical problems that involve all of the above with increasingly large positive numbers. - Count backwards through zero to include negative numbers.
		Number: addition and subtraction	Add and subtract 1s, 10s, 100s and 1000s Add two 4-digit numbers with no exchange, one exchange and more than one exchange Subtract two 4-digit numbers with no exchange, one exchange and more than one exchange Efficient subtraction Estimate answers Checking strategies	- Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. - Estimate and use inverse operations to check answers to a calculation. - Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
		Measurement: length and perimeter	Kilometres Perimeter on a grid Perimeter of a rectangle Perimeter of rectilinear shapes	- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. - Convert between different units of measure (e.g. kilometre to metre).
		Number: multiplication and division	Multiply by 10, then 100 Divide by 10, then 100 Divide by 1 and zero Divide by 1 and itself Multiply and divide by 6 6 times table and division facts Multiply and divide by 9 9 times table and division facts Multiply and divide by 7 7 times table and division facts	- Recall and use multiplication and division facts for multiplication tables up to 12 x 12. - Count in multiples of 6, 7 and 9. - Solve problems, including multiplying and adding using the distributive law to multiply two-digit numbers by one-digit.

UPPER KEY STAGE 2

YEAR 5

YEAR	TOPIC NAME	CURRICULUM COVERAGE	BIG FINISH What children need to be able to do by the end
YEAR 5	Number: place value	Numbers to 10,000 Roman numerals to 1000 Round to nearest 10, 100 and 1000 Numbers to 100,000 Compare and order numbers to 100,000 Round numbers within 100,000 Numbers to a million Counting in 10s, 100s, 1000s, 10,000s and 100,000s Compare, order and round numbers to one million Negative numbers	- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. - Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. - Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. - Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000. - Solve number problems and practical problems that involve all of the above. - Read Roman numerals up to 1000 (M) and recognise years written in Roman numerals.
	Number: addition and subtraction	Add whole numbers with more than 4 digits (column method) Subtract whole numbers with more than 4 digits (column method) Round to estimate and approximate Inverse operations (addition and subtraction) Multi-step addition and subtraction problems	- Add and subtract numbers mentally with increasingly large numbers. - Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). Use rounding to check answers to calculations and to determine, in the context of a problem, levels of accuracy. - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use, and why.
	Statistics	Read, interpret and draw line graphs Use line graphs to solve problems Read and interpret tables Two-way tables Timetables	- Solve comparison, sum and difference problems using information presented in a line graph. - Complete, read and interpret information in tables, including timetables.
	Number: multiplication and division	Multiples Factors Common factors Prime numbers Square numbers Cube numbers Multiply by 10, 100 and 1000 Divide by 10, 100 and 1000 Multiples of 10, 100 and 1000	- Multiply and divide numbers mentally, drawing upon known facts. - Multiply and divide whole numbers by 10, 100 and 1000. - Recognise and use square and cube numbers and the notation for square and cubed. - Solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes. - Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. - Establish whether a number up to 100 is prime and recall prime numbers up to 19.
	Measurement: perimeter and area	Measure and calculate perimeter Area of rectangles Area of compound shapes Area of irregular shapes	- Measure and calculate the perimeter of composite rectilinear shapes in cm and m. - Calculate and compare the area of rectangles (including squares) and including using standard units (cm squared and m squared) estimate the area of irregular shapes.

UPPER KEY STAGE 2

YEAR 6

YEAR	TOPIC NAME	CURRICULUM COVERAGE	BIG FINISH What children need to be able to do by the end
	Number: place value	Numbers to ten million Compare and order any number Round any number Negative numbers	- Read, write, order and compare numbers to 10,000,000 and determine the value of each digit. - Round any whole number to a required degree of accuracy. - Use negative numbers in context and calculate intervals across zero. - Solve number and practical problems that involve all of the above.
	Number: four operations	Add and subtract integers Multiply up to a 4-digit number by 2-digit number Short division Division using factors Long division Common factors and multiples Primes to 100 Squares and cubes Order of operations Mental calculations and estimation Reason from known facts	- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use, and why. - Multiply multi-digit numbers up to 4 digits by a 2-digit number using the formal written method of long multiplication. - Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions or by rounding as appropriate for the context. - Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context. - Perform mental calculations, including with mixed operations and large numbers. - Identify common factors, common multiples and prime numbers. - Use knowledge of the order of operations to carry out calculations involving the four operations. - Solve problems including addition, subtraction, multiplication and division. - Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate level of accuracy. - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
	Number: fractions	Simplify fractions Fractions on a number line Compare and order (denominator) Compare and order (numerator) Add and subtract fractions Mixed addition and subtraction Multiply fractions by integers Multiply fractions by fractions Divide fractions by integers Four rules with fractions Fraction of an amount Fraction of an amount – find the whole	- Compare and order fractions, including fractions > 1. - Generate and describe linear number sequences (with fractions). - Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions. - Multiply simple pairs of proper fractions, writing the answer in its simplest form. - Divide proper fractions by whole numbers. - associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$). - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
	Geometry: position and direction	The first quadrant Four quadrants Translations Reflections	- Describe positions on the full coordinate grid (four quadrants). - Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.