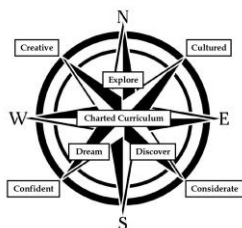


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Progression of Knowledge, Understanding and skills in Maths

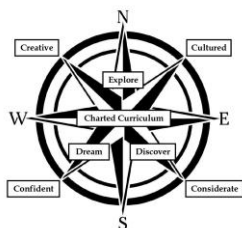
School Phase	Phase 1	Phase 2			Phase 3		
Year Group	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Counting		<ul style="list-style-type: none"> count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens 	<ul style="list-style-type: none"> count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward 	<ul style="list-style-type: none"> count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number 	<ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number count backwards through zero to include negative numbers 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> use negative numbers in context, and calculate intervals across zero
Place Value			<ul style="list-style-type: none"> recognise the place value of each digit in a two-digit number compare and order numbers from 0 up to 100; use <, > and = signs 	<ul style="list-style-type: none"> recognise the place value of each digit in a three-digit number compare and order numbers up to 1000 	<ul style="list-style-type: none"> recognise the place value of each digit in a four-digit number order and compare numbers beyond 1000 round any number to the nearest 10, 100 or 1000 	<ul style="list-style-type: none"> read, write, order and compare numbers up to 1 000 000 and determine the value of each digit round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 	<ul style="list-style-type: none"> read, write, order and compare numbers up to 10 000 000 and determine the value of each digit round any whole number to a required degree of accuracy
Representing number		<ul style="list-style-type: none"> identify and represent numbers using objects and pictorial representations including the number line, & use language of: equal to, more than, less than (fewer), most, least read and write numbers from 1 to 20 in numerals and words read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) sign 	<ul style="list-style-type: none"> identify, represent and estimate numbers using different representations, including the number line read and write numbers to at least 100 in numerals and in words 	<ul style="list-style-type: none"> identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words 	<ul style="list-style-type: none"> identify, represent and estimate numbers using different representations read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value 	<ul style="list-style-type: none"> read Roman numerals to 1000 (M) and recognise years written in Roman numerals recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) 	
Number facts (+/-)		<ul style="list-style-type: none"> given a number, identify one more and one less represent and use number bonds and related subtraction facts within 20 	<ul style="list-style-type: none"> use place value and number facts to solve problems recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 				
Mental (+/-)		<ul style="list-style-type: none"> add and subtract one-digit and two-digit numbers to 20, including zero 	<ul style="list-style-type: none"> add and subtract numbers using concrete objects, pictorial representations, and mentally, including: TU+U, TU+T, TU+TU and U+U+U show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot 	<ul style="list-style-type: none"> add and subtract numbers mentally, including: HTU+U, HTU+T and HTU+H 		<ul style="list-style-type: none"> add and subtract numbers mentally with increasingly large numbers 	<ul style="list-style-type: none"> perform mental calculations, including with mixed operations and large numbers



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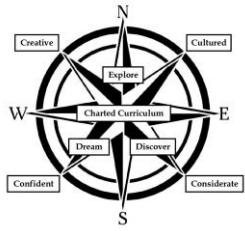
Written +/-				<ul style="list-style-type: none"> •add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction 	<ul style="list-style-type: none"> •add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate 	<ul style="list-style-type: none"> •add and subtract whole numbers with more than 4 digits, including using formal written methods 	
Problems +/-		<ul style="list-style-type: none"> •solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$. 	<ul style="list-style-type: none"> •solve problems with addition and subtraction, using concrete, pictorial and abstract representations •recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problem 	<ul style="list-style-type: none"> •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 	<ul style="list-style-type: none"> •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 	<ul style="list-style-type: none"> •use rounding to check answers to calculations and 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 	
Number facts (x/÷)			<ul style="list-style-type: none"> •recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers 	<ul style="list-style-type: none"> •recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 	<ul style="list-style-type: none"> •recall multiplication and division facts for multiplication tables up to 12×12 	<ul style="list-style-type: none"> •identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers •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 	<ul style="list-style-type: none"> •identify common factors, common multiples and prime numbers
Mental (x/÷)			<ul style="list-style-type: none"> •calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals ($=$) signs •show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot 	<ul style="list-style-type: none"> •write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods 	<ul style="list-style-type: none"> •use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers •recognise and use factor pairs and commutativity in mental calculation 	<ul style="list-style-type: none"> •multiply and divide numbers mentally drawing upon known facts •multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 	<ul style="list-style-type: none"> •perform mental calculations, including with mixed operations and large number
Written (x/÷)				<ul style="list-style-type: none"> •Progress to formal written methods calculations as above 	<ul style="list-style-type: none"> •multiply two-digit and three-digit numbers by a one-digit number using formal written layout 	<ul style="list-style-type: none"> •multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers •divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context 	<ul style="list-style-type: none"> •multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication •divide numbers up to 4 digits by a two-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



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							a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to context
Problems (x/÷)		<ul style="list-style-type: none"> •solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$. 	<ul style="list-style-type: none"> •solve problems with addition and subtraction, using concrete, pictorial and abstract representations •recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. 	<ul style="list-style-type: none"> •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 	<ul style="list-style-type: none"> •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 	<ul style="list-style-type: none"> •use rounding to check answers to calculations and 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 	
Recognising fractions							
Comparing fractions							
Finding fractions of quantities							
Fraction calculations							
Decimals as fractional amount							
Ordering decimals							
Calculating with decimals							
Percentages							
Fraction problems							
Ratio & Proportion							
Algebra							
Measures							
Mensuration							
Money							
Time							
Shape vocabulary							
Properties of 2-d shape							
Properties of 3-d shape							



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Angles							
Position & Direction							
Interpreting data							
Extract info from data							