St Andrew's Maths Progression Ladder

We use the NCETM Curriculum Prioritisation materials to teach maths using a mastery approach. This covers the full mathematics national curriculum (except for a few areas detailed below), but priority is given to those areas covered by the ready-to-progress criteria from the DfE guidance. These areas are given more time and appear earlier in the year.

Apart from 'Roman numerals' and 'Constructing and presenting data', all the national curriculum content is included within the key stage. We teach 'Roman numerals' through history, when teaching time, and through continuous provision. Aspects of 'Constructing and presenting data' are addressed in other foundation subjects, where the data handling cycle can be applied in a relevant context, such as in science or geography.

Number and Place Value

KS1 Ready to Progress Criteria

Count within 100, forwards and backwards, starting with any number.

Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning. Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =

Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.

Year 3	Year 4	Year 5	Year 6
• Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10. • Recognise the place value of each digit in three-digit numbers, and compose and decompose three- digit	• Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. • Recognise the place value of each digit in four-digit numbers, and compose and decompose four- digit numbers using standard and	• Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. • Recognise the place value	• Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). • Recognise the place value of each digit in numbers up to 10 million, including decimal

	numbers using standard and non-standard partitioning. ● Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. ● Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts	nonstandard partitioning. ● Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. ● Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. ● count backwards through zero to include negative numbers. ● 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.	of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning. ● Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. ● Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. ● Convert between units of measure, including using common decimals and fractions. ● Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning. ● Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts. ● Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.
Number facts	**KS1 Ready to Progress Criteria:** ● Secure Fluency in addition and subtraction facts within 10 ● Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.			
	Year 3	**Year 4**	**Year 5**	**Year 6**

	• Secure fluency in addition and subtraction facts that bridge 10. • Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. • Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).	• Recall multiplication and division facts up to 12 x 12, and recognise products in multiplication tables as multiples of the corresponding number. • Solve division problems, with two- digit dividends and one-digit divisors, which involve remainders, and interpret remainders appropriately according to the context. • Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100	• Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. • Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	Recall and revisit all number facts throughout the year through daily maths meets and arithmetic lessons on a Friday.
Addition and Subtraction	**KS1 Ready to Progress Criteria:** • Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. • Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts. • Add and subtract across 10. • Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?" • Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two digit number • Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.			
	Year 3	**Year 4**	**Year 5**	**Year 6**
	• Calculate Complements to 100 • Add and subtract numbers mentally, including: ○ a three-digit number and	• Add and Subtract up to 4-digit numbers using Columnar Methods • Estimate and use inverse operations to check answers to a calculation • Solve addition and	• Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	• Understand that two numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships • Solve addition and

	ones ○ a three-digit number and tens ○ a three-digit number and hundreds ● Add and Subtract up to 3- digit numbers using Columnar Methods ● 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.	subtraction two-step problems in contexts, deciding which operations and methods to use and why.	● Column methods can be used to add and subtract decimal numbers including quantities of money. ● solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	subtraction multi-step problems in contexts, deciding which operations and methods to use and why
Multiplication and division	**KS1 Ready to Progress Criteria:** ● Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. ● Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).			
	Year 3	**Year 4**	**Year 5**	**Year 6**
	● Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	● Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.	● Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.	● Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships

		• Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. • Understand and apply the distributive property of multiplication. • Solve division problems, with two- digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.	• Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors. • Multiply any whole number with up to 4 digits by any one-digit number using a formal written method. • Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.	
Fractions	**KS1 Ready to Progress Criteria:** • None			
	Year 3	**Year 4**	**Year 5**	**Year 6**
	• Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. • Find unit fractions of quantities using known division facts (multiplication tables fluency). • Reason about the location of any fraction within 1 in the	• Reason about the location of mixed numbers in the linear number system. • Convert mixed numbers to improper fractions and vice versa. • Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.	• Find non-unit fractions of quantities. • Find equivalent fractions and understand that they have the same value and the same position in the linear number system. • Recall decimal fraction equivalents for 1/2, 1/4, 1/5 and 1/10 and for multiples of these proper	• Recognise when fractions can be simplified, and use common factors to simplify fractions. • Express fractions in a common denomination and use this to compare fractions that are similar in value. • Compare fractions with different denominators, including fractions greater than 1, using reasoning,

	linear number system. ● Add and subtract fractions with the same denominator, within 1.		fractions	and choose between reasoning and common denomination as a comparison strategy.
Geometry	**KS1 Ready to Progress Criteria:** ● Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. ● Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties. ● Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.			
	Year 3	**Year 4**	**Year 5**	**Year 6**
	● Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. ● Draw polygons by joining marked points, and identify parallel and perpendicular sides.	● Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. ● Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. ● Find the perimeter of regular and irregular polygons. ● Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line	● Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size. ● Compare areas and calculate the area of rectangles (including squares) using standard units.	● Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.
Measures	**KS1 Ready to Progress Criteria:** ● Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids			

	are not always similar to one another. ● Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties. ● Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.			
	Year 3	**Year 4**	**Year 5**	**Year 6**
	● measure, compare, add and subtract: **lengths** (m/cm/mm), **mass** (kg/g) up to 1000g, **volume/ capacity** (l/ml) up to 1000ml *Note: Covered within Number, Place Value, Addition and Subtraction*	● measure, compare, add and subtract: **lengths** (km, m/cm/mm); **mass** (kg/g); **volume/capacity** (l/ml) *Note: Covered within Number, Place Value, Addition and Subtraction* ● measure and calculate the **perimeter** of a rectilinear figure (including squares) in centimetres and metres *Note: Covered within Geometry*	● calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes (also included in measuring) *Note: Covered within Geometry* ● estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity (e.g. using water) *Note: Covered within Geometry*	● calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3. *Note: Covered within Geometry*
Time	**KS1 Ready to Progress Criteria:** ● None			
	Year 3	**Year 4**	**Year 5**	**Year 6**

	● Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks ● Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight ● Know the number of seconds in a minute and the number of days in each month, year and leap year ● Compare durations of events, for example to calculate the time taken by particular events or tasks	● read, write and convert time between analogue and digital 12 and 24-hour clocks ● solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	● solve problems involving converting between units of time	Recall through maths meets and problem solving throughout the year.