Annesley Primary & Nursery School Progression Map

Subject: Maths

Intent

At Annesley Primary and Nursery School, we believe that children should be equipped to solve problems; develop ways of looking at patterns; discover efficient strategies and make links between the different areas of maths. We believe maths is a universal language; it helps us to describe, make sense, investigate, understand and respect our ever-changing world. We believe all children can achieve in mathematics, and teach for secure and deep understanding of concepts through fluency, number sense and reasoning. Where possible, we try to make our maths 'real maths', making our learning and experiences relevant to everyday life. We use mistakes and misconceptions as an essential part of learning and provide challenges through rich and varied problems. We encourage children to use approaches, which work for them, by equipping them with a range of efficient strategies and ensuring an understanding of them. At our school, the majority of children will be taught age related content and will be supported in understanding this through pre-teaching and close the gap teaching when necessary. We aim to make maths an exciting and varied experience to enable children to flourish and achieve.

Our medium- and long-term plans and sequencing of lessons follow the White Rose mastery approach (FS2 through Year 6) where the goal is to deepen understanding so that each lesson builds upon the last. Mathematical concepts and skills are broken up across the key stages. A concept is taught and will be revisited the following year, but in greater depth in order to build upon prior knowledge. We start with number (place value, addition/subtraction, multiplication/division [KS2]) which is consolidated first before moving on to measurement, statistics and geometry. This is important as the children will them be able to use their number skills and then apply it to the other mathematical disciplines. A progression map has been provided to all teachers so that they understand where children are coming from and where they are headed. We tailor our sequential plans to individual cohorts. As the pupils enter UKS2 we build in more opportunities to access material that is above their age level, in preparation for the 11+ and continuation on to secondary/grammar school.

Staff are aware and sensitive to the needs of all pupils. We ensure that all pupils have access to the curriculum and utilise a wide range of maths manipulatives that are demonstrated in the White Rose approach. Based on the mastery approach, pupils who are sound with their fluency deepen their understanding with reasoning and problem solving. Pupils who are struggling to grasp a concept will have a teacher working and checking in with them during the lesson. They will also have the opportunity to revise it with the teacher or LSA prior to the next lesson. Each pupil is catered to with differentiated learning within the scope of each lesson.

First and foremost, we focus on effective and quality teaching for all. Then we differentiate using White Rose or White Rose equivalent work so that all pupils may access the curriculum regardless of disadvantages or SEND. We also utilise maths manipulatives, set out visual reminders, have one-to-one / groups, etc. to help support these pupils. We make it a priority to "know" our children and what motivates them and to "know" the curriculum to ensure the teaching staff understand the progression in maths learning and the likely misconceptions.

In the long term we would like to continue developing a deeper understanding for the teaching staff's pedagogical knowledge. We are also working on incorporating more reasoning and problem solving across the school as this has been identified as an area of need. Our next step is to embed the CPA approach, which we have CPD scheduled for staff at the end of the spring term 2022.

Autumn	**EYFS**	**Key Stage 1**		**Key Stage 2**			
	Nursery/ Year R Autumn	Year 1 Autumn	Year 2 Autumn	Year 3 Autumn	Year 4 Autumn	Year 5 Autumn	Year 6 Autumn
White Rose	**Nursery** To Know: colours, sorting and pattern size and the language of size **Reception** To Know how to match sort and compare amounts, Compare size mass and capacity. To Know how to Repeat patterns Represent and compare the composition of numbers to 3, 2d shape and	**Number and place value** To know how to: Sort objects. Count objects. Represent objects. Count, read and write forwards from any number 0 to 10. Count, read and writing backwards from any number 0 to 10. Count one more. Count one less. start to comparing groups. Compare groups using language such	**Number and Place Value** To know how to: Count in 2,3,5,10's Recognise place value of two-digit number. Identify, represent and estimate numbers using different representations. compare and order numbers from 0 up to 100 < > and = read and write numbers to at least 100 in numerals and in words. use place value and number facts to solve problems.	**Place Value** To know how to: Represent numbers to 1,000. 100s, 10s and 1s (1). 100s, 10s and 1s (2). Number line to 1,000. Find 1, 10, 100 more or less than a given number. Compare objects to 1,000. Compare numbers to 1,000. Order numbers. Count in 50s.	**Place Value** To know how to: Represent Roman numerals to 100. Round to the nearest 10. Round to the nearest 100. Count in 1,000s, 100s, 10s and 1s. Partition. Use a Number line to 10,000. Say 1,000 more or less. Compare numbers. Order numbers.	**Number and Place Value:** To know how to: 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	**Number and Place value** To know how to: Numbers to ten million. Compare an order any number. Round any numbers. Negative numbers. **Addition, Subtraction, multiplication and division** Add and subtract whole numbers. Multiply up to 4 digit by 1 digit number.

	positional language. To know what 1 more and 1 less is	as equal, more/greater, less/fewer. Introduce = , > and < symbols. Compare numbers. Order groups of objects. Order numbers. Ordinal numbers (1st, 2nd, 3rd ….). Use a number line. Count forwards and backwards and write numbers to 20 in numerals and words. Count numbers from 11 to 20. Count Tens and ones. Count one more and one less. Compare groups of objects. Compare numbers. Order groups of objects. Order numbers.	**Addition and Subtraction** To know how to: solve problems with addition and subtraction using concrete and pictorial representations. Increase knowledge in mental and written methods. Recall and use addition and subtraction facts to 20 fluently and use related facts up to 100. add and subtract numbers using concrete, pictorial, and mental methods. Show addition can be done commutative and subtraction cannot. Recognise and use the inverse between addition and subtraction to solve missing number problems.	**Addition and Subtraction** To know how to: Add and subtract multiples of 100. Add and subtract 3 digit numbers and ones 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 numbers and tens not crossing 100. Add a 3 digit number and tens crossing 100. Add and subtract 100s. Spot the pattern making it explicit. Add and subtract a 2 digit and 3 digit number not	Round to the nearest 1,000. Count in 25s. represent Negative numbers. **Addition and Subtraction** To know how to: Add and subtract 1s, 10s, 100s and 1000s. Add two 4 digit numbers no exchange. Add two 4 digit numbers one exchange. Add two 4 digit numbers more than one exchange. Subtract two 4 digit numbers no exchange. Subtract two 4 digit numbers one exchange. Subtract two 4 digit numbers more	Solve number problems and practical problems that involve all of the above **Addition and Subtraction:** To know how to: Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Add and subtract numbers mentally with increasingly large numbers 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.	Short division. Divide using factors. Use long division. Use common factors. Use common multiples. Use primes. Use squares and cubes. Order of operations. Use mental calculations and estimation. Reason from known facts. **Fractions** To know how to: Simplify fractions. Fractions on a number line. Compare & order (denominator).

		Addition and Subtraction To know how to use: Part whole model. Addition symbol. Fact families – Addition facts. Find number bonds for numbers within 10. Systematic methods for number bonds within 10. Number bonds to 10. Compare number bonds. Addition: Adding together. Addition: Adding more. Finding a part. Subtraction: Taking away, how many left? Crossing out.		crossing 10 or 100. Add a 2 digit and 3 digit number crossing 10 or 100. Subtract 2 digit number from a 3 digit number cross the 10 or 100. Add two 3 digit numbers not crossing 10 or 100. Add two 3 digit numbers crossing 10 or 100. Subtract a 3 digit number from a 3 digit number no exchange. Subtract a 3 digit number from a 3 digit number exchange. Exchange answers to calculations. Check answers. **Multiplication and Division** To know how to: Multiplication equal groups.	than one exchange. Use Efficient subtraction. Estimate answers. Check strategies. **Measure – length and Perimeter** To know how to solve: Perimeter on a grid. Perimeter of a rectangle. Perimeter of rectilinear shapes. **Multiplication and Division** To know how to: Multiply by 10. Multiply by 100. Divide by 10. Divide by 100. Multiply by 1 and 0. Divide by 1.	**Measurement:** To know how to: Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes	Compare & order (numerator). Add & subtract fractions. Add more than two fractions. Subtract fractions. Add and subtract Mixed addition and subtraction. Multiply fractions by integers. Multiply fractions by fractions. Divide fractions by integers (1). Divide fractions by integers (2). Four rules with fractions. Find a fraction of an amount. Find the whole. **Geometry – position and direction**

		Subtraction: Taking away, how many left? Introducing the subtraction symbol. Subtraction: Finding a part, breaking apart. Fact families –The 8 facts. Subtraction: Counting back. Subtraction: Finding the difference. Comparing addition and subtraction statements a + b > c. Comparing addition and subtraction statements a + b > c + d. **Geometry** To know how to: Recognise and name 3D shapes. Sort 3D shapes. Recognise and name 2D shapes.		Multiply by 3. Divide by 3. Use the 3 times table. Multiply by 4. Divide by 4. Use the 4 times table. Multiply by 8. Divide by 8. Use the 8 times table.	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.	Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] Solve problems involving converting between units of time Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. **Statistics:** To know how to: Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret information in tables, including timetables.	To know how to use: Coordinates in the first quadrant. Coordinate in four quadrants. Translation. Reflection.

		Sort 2D shapes. Patterns with 3D and 2D shapes.					

NC	**Nursery** To know and show an interest in shape and space by playing with shapes or making arrangements with objects. To know and Show awareness of similarities of shapes in the environment **Reception** To know and begin to use mathematical names for 'solid' 3D shapes and 'flat' 2-D shapes, and mathematical terms to describe shapes. To know and Select a particular named shape.	**Number and place value** To know how to: Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 10 in numerals and words. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. To know how to: Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number.	**Number and Place value** To know how to: Read and write numbers to at least 100 in numerals and in words. Recognise the place value of each digit in a two digit number (tens, ones) Identify, represent and estimate numbers using different representations including the number line. Compare and order numbers from 0 up to 100; use <, > and = signs. Use place value and number facts to solve problems. Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.	**Number and place value** Statutory requirements Pupils should be taught to: To know how to: count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words	**Number & Place Value** To know how to: count in multiples of 6, 7, 9, 25 and 1,000 find 1,000 more or less than a given number count backwards through 0 to include negative numbers recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s and 1s) order and compare numbers beyond 1,000 identify, represent and estimate numbers using different representations round any number to the nearest 10, 100 or 1,000 solve number and practical problems that involve all of the	**Number and Place value** To know how to: Read, write, order and compare numbers to at least 1000000 and determine the value of each digit. Count forwards or backwards in steps of powers of 10 for any given number up to 1000000. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000. Solve number problems and	**Number & Place Value** To know how to: 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 use negative numbers in context, and calculate intervals across 0 solve number and practical problems that involve all of the above. **Addition, Subtraction, Multiplication & Division** To know how to: multiply multi-digit numbers up to 4 digits by a

	To know and describe their relative position such as 'behind' or 'next to'. To know and order two or three items by length or height. To know and order two items by weight or capacity. To know and Uses familiar objects and common shapes to create and recreate patterns and build models. To know and recognise some numerals of personal significance. To know and recognise	Count, read and write numbers to 20 in numerals and words. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. **Addition and Subtraction** To know how to: Represent and use number bonds and related subtraction facts within 10. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	**Addition and Subtraction** To know how to: 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; adding three one digit numbers. Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Solve problems with addition and	solve number problems and practical problems involving these ideas. **Addition and subtraction** To know how to: add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds add and subtract numbers with 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	above and with increasingly large positive numbers read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value. **Addition and Subtraction** To know how to: 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.	practical problems that involve all of the above. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. **Addition and Subtraction** To know how to: 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 determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi step problems in contexts, deciding which	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 a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context perform mental calculations, including with mixed operations

	numerals 1 to 5. To know and count up to three or four objects by saying one number name for each item.	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** To know how to: Recognise and name common 2-D shapes, including: (e.g. rectangles (including squares), circles and triangles). Recognise and name common 3-D shapes, including: (e.g. cuboids (including cubes), pyramids and spheres).	subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. **Measure Money** To know how to: Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. Find different combinations of coins that equal the same amounts of money.	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. **Multiplication and division** Pupils should be taught to: To know how to: recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	**Measurement** To know how to: convert between different units of measure measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	operations and methods to use and why. **Statistics** To know how to: Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables including timetables. **Multiplication and Division** Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non prime) numbers.	and large numbers. identify common factors, common multiples and prime numbers use their knowledge of the order of operations to carry out calculations involving the 4 operations solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why solve problems involving addition, subtraction, multiplication and division use estimation to check answers to calculations and determine, in the context of a problem, an

			Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. **Multiplication and Division** To know how to: Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) Solve problems involving			Establish whether a number up to 100 is prime and recall prime numbers up to 19. 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. Multiply and divide numbers mentally, drawing upon known facts. 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. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000. Recognise and use square numbers and cube numbers,	appropriate degree of accuracy. **Fractions (decimals & percentages)** To know how to: use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions >1 add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions multiply simple pairs of proper fractions, writing the answer in its simplest form

			multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.			and the notation for squared (^{2}) and cubed (^{3}). Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. **Measure – Perimeter and Area** To know how to: Measure and	divide proper fractions by whole numbers associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers are up to three decimal places **Geometry Position & Direction** To know how to: describe positions on the full coordinate grid (all 4 quadrants)

						calculate the perimeter of composite rectilinear shapes in centimetres and metres. Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm^2) and square metres (m^2), and estimate the area of irregular shape	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
Spring	**EYFS**	**Key Stage 1**		**Key Stage 2**			
	Nursery /Year R Spring	Year 1 Spring	Year 2 Spring	Year 3 Spring	Year 4 Spring	Year 5 Spring	Year 6 Spring
White Rose	**Nursery** To know numbers 1, 2 and 3 and then know Numbers 4 5 and 6 **Reception** To know zero, compare and composition of	**Number and place value** To know how to: Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 10 in numerals and words.	**Multiplication and division** To know how to: Recall and use multiplication and division facts for the 2, 5, and 10 multiplication tables, including recognizing odd and even numbers. Calculate mathematical statements for	**Multiplication and Division** To know how to: Compare statements Related calculations. Multiply 2 digits by 1 digit (1). Multiply 2 digits by 1 digit (2). Divide 2 digits by 1 digit (1).	**Multiplication and Division** To know: The 11 and 12 times table. To know how to: Multiply 3 numbers. To know: Factor pairs.	**Number: Fractions (including decimals and percentages)** To know how to: compare and order fractions whose denominators are all multiples of the same number identify, name and write equivalent fractions of a given fraction, represented visually, including	**Number - Decimals Three decimal places.** To know how to: Multiply by 10, 100 and 1,000. Divide by 10, 100 and 1,000. Multiply decimals by

	numbers 4, 5, 6, 7 and 8 To how to make pairs and combining groups numbers 9 and 10 comparing numbers to 10. To know number bonds to 5 and 10 3D shape	Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. To know how to: Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number. Count, read and write numbers to 20 in numerals and words. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to,	multiplication and division within multiplication tables and write them using the multiplication (x) and division () and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. **Number: Fractions** To know how to: Recognise, find, name and write fractions 1/3 ¼ 2/4 and ¾ of a length, shape, set of objects or quantity.	Divide 2 digits by 1 digit (2). Divide 2 digits by 1 digit (3). Scale **Measure – Money** To know how to: Represent Pounds and pence. Convert pounds and pence. Add money. Subtract money. Give change. **Statistics** To know how to Read Pictograms. Read Bar charts. Read Tables. **Measure – Length and Perimeter**	Efficient multiplication. Written methods for both multiplication and division. To know how to: Multiply 2 digits by 1 digit. Multiply 3 digits by 1 digit. Divide 2 digits by 1 digit (1). Divide 2 digits by 1 digit (2). To know how to solve: Correspondence problems. **Measure – Area** To know: What area is counting squares To know how to: Comparing area.	tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 5 2 + 5 4 = 5 6 = 1 5 1] add and subtract fractions with the same denominator and denominators that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams read and write decimal numbers as fractions [for example, 0.71 = 100 71] recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	integers. Divide decimals by integers. Use Division to solve problems. Use Decimals as fractions. **Number – percentage** To know how to: Convert Fractions to percentages. Find equivalent FDP. Find percentage of an amount Find Percentages of missing values. Find percentage increase and decrease. Order FDP. **Number – algebra** To know how:

		more than, less than (fewer), most, least. **Addition and Subtraction** To know how to: Represent and 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**	Write simple fractions eg ½ of 6=3 and recognize the equivalence of 2/4 and ½ **Measurement** To know how to: Choose and use appropriate standard units to estimate and measure length/height in amy direction (m/cm); mass (kg/g); temperature(oC); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using <.> and = Recognise and use symbols for pounds (£) and pence (p) combine amounts to make a particular value Find different combinations of coins	To know how to: Measure length. Equivalent lengths m & cm. Equivalent lengths mm & Compare lengths. Add lengths. Subtract lengths. Measure perimeter. Calculate perimeter. **Fractions** To know how to: Recognise Unit and non-unit fractions. Make the whole. Make Tenths. Count in tenths. Understand Tenths as decimals. Put Fractions of a number line.	**Fractions** To know and work with: Equivalent fractions Fractions greater than 1. To know how to: Count in fractions. Add 2 or more fractions. Subtract 2 fractions. Subtract from whole amounts. Calculate fractions of a quantity. Problem solve and calculate quantities. **Decimals** To know how to: Recognise tenths and hundredths. Tenths as decimals. Tenths on a place value grid.	round decimals with two decimal places to the nearest whole number and to one decimal place read, write, order and compare numbers with up to three decimal places solve problems involving number up to three decimal places recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal solve problems which require knowing percentage and decimal equivalents of 2 1 , 4 1 , 5 1 , 5 2 , 5 4 and those fractions with a denominator of a multiple of 10 or 25. **Number: Multiplication and division**	Find a rule one step. Find a rule two step. Use an algebraic rule. Use substitution. Use formulae. Solve word problems. Solve simple one step equations. Solve two step equations. Find pairs of values. Enumerate possibilities. **Measure – converting units** To know how to: Use metric measures. Convert metric measures.

		Recognise and name common 2-D shapes, including: (e.g. rectangles (including squares), circles and triangles). Recognise and name common 3-D shapes, including: (e.g. cuboids (including cubes), pyramids and spheres).	that equal the same amounts of money Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. Compare and sequence intervals of time Tell and write time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day		Tenths on a number line. Divide 1 digit by 10. Divide 2 digits by 10. Use Hundredths. Use Hundredths as decimals. Use Hundredths on a place value grid. Divide 1 or 2 digits by 100.	To know how to: 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 (nonprime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 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 multiply and divide numbers mentally drawing upon known facts divide numbers up to 4 digits by a one-digit number using the formal written method of short	Calculate with metric measures. Convert miles and kilometres. Use Imperial measures. **Measure – Area and perimeter** To know how to: Find Shapes with the same area. Solve Area and perimeter problems. Solve Area of a triangle problems Solve Area of a Parallelogram problems. Calculate Volume counting cubes. Calculate Volume of a cuboid. **Number - Ratio**

						division and interpret remainders appropriately for the context multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign solve problems involving multiplication and	To know how to: Use ratio language. Ratio and fractions. use the ratio symbol. Calculate ratio. Use scale factors. Calculate scale factors.

						division, including scaling by simple fractions and problems involving simple rates.	
NC	**Nursery** To know and to use some number names and number language spontaneously . To know and use some number names accurately in play. To know and recite numbers in order to 10.17 To know that numbers	**Addition and Subtraction** To know how to: Represent and use number bonds and related subtraction facts within 20. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Add and subtract one-digit and two-digit numbers to 20, including zero.	**Multiplication and division** To know how to: Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using	**Multiplication and division** Statutory requirements To know how to: 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	**Multiplication & Division** To know how to: recall multiplication and division facts for multiplication tables up to 12 × 12 use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers recognise and use factor pairs and commutativity in mental calculations	**Multiplication and division** To know how to: Multiply and divide numbers mentally drawing upon known facts. Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers. Divide numbers up to 4 digits by a one digit number using the formal written method of	**Fractions (decimals & percentages)** To know how to: associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving

	identify how many objects are in a set. To know and begin to represent numbers using fingers, marks on paper or pictures. To know and start to match numeral and quantity correctly. To know and show curiosity about numbers by offering comments or asking questions. To know and to Compare two groups of objects, saying when they have the same number. To know and to show an interest in	Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= ☐–9. **Place Value** To know how to: Count to 50 forwards and backwards, beginning with 0 or 1, or from any number. Count, read and write numbers to 50 in numerals. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.	the multiplication (×), division ÷) and equals (=) signs. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. **Statistic** To know how to: Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.	mental and progressing to formal written methods solve problems, including missing number problems, involving multiplication Solve division, including positive integer scaling problems and correspondence solve problems in which n objects are connected to m objects. Pupils should be taught to: To know how to: count up and down in tenths; recognise that tenths arise from dividing an sort object into 10 equal parts and in dividing one-digit numbers or quantities by 10	multiply two-digit and three-digit numbers by a one-digit number using formal written layout solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. **Measurement** To know how to: find the area of rectilinear shapes by counting squares Fractions (including decimals) recognise and show, using diagrams, families of common equivalent fractions count up and down in hundredths;	short division and interpret remainders appropriately for the context. Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign. **Fractions** To know how to: Compare and order fractions whose denominators are multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. Recognise mixed numbers and improper fractions and convert	answers are up to three decimal places multiply one-digit numbers with up to 2 decimal places by whole numbers use written division methods in cases where the answer has up to 2 decimal places solve problems which require answers to be rounded to specified degrees of accuracy recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. **Ratio & Proportion** To know how to:

	number problems. **Reception** To know and to recognise some numerals of personal significance. To know and to Recognise numerals 1 to 5. To know and to count up to three or four objects by saying one number name for each item. To know and to count actions or objects which cannot be moved. To know and to Count objects to 10, and beginning to count beyond 10.	Count in multiples of twos, fives and tens. **Measure** **Measurement: Length and Height** To know how to: Measure and begin to record lengths and heights. Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) **Measurement: Weight and Volume** To know how to: Measure and begin to record mass/weight, capacity and volume. Compare, describe and solve practical problems for mass/weight:[for example, heavy/light, heavier than, lighter than]; capacity and volume [for example,	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. Ask and answer questions about totaling and comparing categorical data. **Geometry** To know how to: Identify and describe the properties of 2 D shapes, including the number of sides and line symmetry in a vertical line. Identify and describe the properties of 3 D shapes, including the number of edges, vertices and faces. Identify 2 D shapes on the surface of 3 D shapes, [for example, a circle on a cylinder and a triangle on a	recognise, find and write fractions of a discrete set of objects: unit fractions Add non-unit fractions with small denominators **Measurement** Statutory requirements Pupils should be taught to: To know how to: measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes add and subtract amounts of money to give change, using both £ and p in practical contexts	recognise that hundredths arise when dividing an object by a 100 and dividing tenths by 10. solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number add and subtract fractions with the same denominator recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to ¼; ½; ¾ find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	from one form to the other and write mathematical statements >1 as a mixed number [for example ⅖ + ⅘ = $^{6}/_{5}$ = 1⅕]. Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Number – decimals and percentages Read and write decimal numbers as fractions [for example 0.71 = $^{71}/_{100}$ Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts solve problems involving the calculation of percentages and the use of percentages for comparison solve problems involving similar shapes where the scale factor is known or can be found solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. **Algebra** To know how to:

	To know and to counts out up to six objects from a larger group. To know and to Select the correct numeral to represent 1 to 5, then 1 to 10 objects. To know and to count an irregular arrangement of up to ten objects. To know and to estimate how many objects they can see and checks by counting them. To know and to use the language of 'more' and 'fewer' to compare two sets of objects.	full/empty, more than, less than, half, half full, quarter].	pyramid]. Compare and sort common 2 D and 3 D shapes and everyday objects. **Fractions** To know how to: Recognise, find, name and write fractions 13, 14, 24and 34 of a length, shape, set of objects or quantity. Write simple fractions for example, 12of 6 = 3 and recognise the equivalence of of24and 12. **Measure** To know how to: Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature C); capacity (litres/ml) to the	tell and write the time from an analogue clock, including using Roman write 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 and hours; use vocabulary use o'clock, a.m./p.m., morning, afternoon, noon and midnight To know: the number of seconds in a minute and the number of days in each month, year and leap year To know how to: compare durations of events [for example	round decimals with 1 decimal place to the nearest whole number compare numbers with the same number of decimal places up to 2 decimal places solve simple measure and money problems involving fractions and decimals to 2 decimal places.	Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the nearest whole number and to one decimal place. Solve problems involving number up to three decimal places. Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents of ½, ¼, ⅕, ⅖, ⅘ and those fractions	use simple formulae generate and describe linear number sequences express missing number problems algebraically find pairs of numbers that satisfy an equation with two unknowns enumerate possibilities of combinations of 2 variables. Measurement To know how to: Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 2 decimal places where appropriate

	To know and to find the total number of items in two groups by counting all of them. To know and to say the number that is one more than a given number. To know and to find one more or one less from a group of up to five objects, then ten objects.		nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using	calculate the time taken by particular events or tasks]. **Statistics** Statutory requirements Pupils should be taught to: To know how to: interpret and present data using bar charts, pictograms and tables solve one-step and two-step questions [for example, 'How many more?' use information presented in scaled bar charts and use and read pictograms and tables.		with a denominator of a multiple of 10 or 25.	use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places convert between miles and kilometres recognise that shapes with the same areas can have different perimeters and vice versa recognise when it is possible to use formulae for area and volume of shapes calculate the area of parallelograms and triangles

							calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units

Summer	**EYFS**	**Key Stage 1**		**Key Stage 2**			
	Nursery/Year R Summer	Year 1 Summer	Year 2 Summer	Year 3 Summer	Year 4 Summer	Year 5 Summer	Year 6 Summer

White Rose	**Nursery** To know basic shapes and their properties, my day, length and height weight, capacity and positional language **Reception** To know how to build numbers beyond 10, counting patterns, spatial reasoning addition and subtraction. To know how to double, share and group, even and odd numbers and spatial reasoning. To know and recognise patterns and relationships	**Multiplication** To know how to: Count in 10s. Make equal groups Add equal groups. Make arrays. Make doubles. Make equal groups –grouping. Make equal groups –sharing. **Fractions** To know how to: Halving shapes or objects. Halving a quantity. Find a quarter of a shape or object. Find a quarter of a quantity. **Geometry** To know how to:	**Statistics** To know how to: Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. Ask and answer questions about totalling and comparing categorical data. **Geometry** To know how to: Identify and describe the properties of 2D shapes, including the number of sides and line of symmetry in a vertical line. Identify and describe the properties of 3D shapes, including the	**Fractions** To know how to: Find Equivalent fractions Compare fractions. Order fractions. Add fractions. Subtract fractions. **Measure – Time** To know how: Many Months and in a years. Many Hours in a day. To know how to: Tell the time to 5 minutes. Tell the time to the minute. Use AM and PM. Use a 24 hour clock. Find the duration.	**Decimals** To know to: Make a whole. Write decimals. Compare decimals. Order decimals. • Round decimals. Write halves and quarters. **Measure - Money** To know how to: Write pounds and pence. Order amounts of money. Use rounding to estimate money. Use Four Operations involving money. **Measure - Time**	**Geometry** To know how to: Identify 3-D shapes, including cubes and other cuboids, from 2-D representations know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees (°) To know how to identify: angles at a point and 1 whole turn (total 360°) angles at a point on a straight line and half a turn (total 180°) other multiples of 90° use the properties of rectangles to deduce related	**Geometry- properties of shape** To know how to: Measure with a protractor. Calculate angles. To know that: Vertically opposite angles are the same. To know how to: Measure the Angles in a triangle. Calculate Angles in a triangle special cases. Calculate Angles in a triangle missing angles. Calculate Angles in special quadrilaterals. Calculate Angles in regular polygons.

		Describe turns. Describe Position **Place value** To know how to: Counting to 100. Partition numbers. Compare number Order numbers. Say what One more, one less is. **Measure** To know how to: Recognise coins. Recognise notes. Count in coins. **Time** To know Before and after. Dates. Time to the hour.	number of edges, vertices and faces. Identify 2D shapes on the surface of 3D shapes, (for example, a circle on a cylinder and a triangle on a pyramid) Compare and sort common 2D and 3D shapes and everyday objects. Order and arrange combinations of mathematical objects in patterns and sequences. Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for ¼ ½ and ¾ turns (clockwise and anti-clockwise)	Compare the duration. Use start and end times. Measure time in seconds. **Measure – shape** To know how to: Turn Right angles in shapes. Compare angles. Draw accurately. Use Horizontal and vertical. Parallel and perpendicular. Recognise and describe 2D shapes. Recognise and describe 3D shapes. Make 3D shapes. **Measure - Mass**	To know that: Seconds make minutes, minutes make hour. Days make months, months make years. Analogue can be turned into digital 12 hour. Analogue can be converted to digital 24 hour. **Statistics** To know how to: Interpret charts. Make comparison, sum and difference. Read line graphs **Geometry - shape** To know how to:	facts and find missing lengths and angles distinguish between regular and irregular polygons based on reasoning about equal sides and angles identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed **Number - fractions (including decimals and percentages)** To know how to: compare and order fractions whose denominators are all multiples of the same number	Draw shapes accurately. Nets of 3D shapes. **Statistics** To know how to Read and interpret line graphs. Draw line graphs. Use line graphs to solve problems. **Circles.** To know how to: Read and interpret pie charts. Connect Pie charts with percentages. Draw pie charts. Calculate the mean.

		Time to the half hour. Writing time. Comparing time.		To know how to: Measure mass Compare mass. Add and subtract mass. Measure capacity. Compare capacity. Add and subtract capacity.	Identify angles. Compare and order angles. Identify Triangles. Identify Quadrilaterals. Identify Lines of symmetry. **Geometry – Position and direction** To know how to: Describe position. Draw on a grid. Move on a grid. Describe a movement on a grid.	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, Shape 2/5 + Shape 4/5 = Shape 6/5 = 1 Shape 1/5] add and subtract fractions with the same denominator, and denominators that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	

						read and write decimal numbers as fractions [for example, 0.71 = Shape 71/100] recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents round decimals with 2 decimal places to the nearest whole number and to 1 decimal place read, write, order and compare numbers with up to 3 decimal places solve problems involving number up to 3 decimal places recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100',	

						and write percentages as a fraction with denominator 100, and as a decimal fraction solve problems which require knowing percentage and decimal equivalents of Shape 1/2 , Shape 1/4 , Shape 1/5 , Shape 2/5 , Shape 4/5 and those fractions with a denominator of a multiple of 10 or 25.	

NC	**Nursery**	**Multiplication**	**Geometry**	**Time**	**Measurement**	**Number – decimals**	**Properties of Shape**
	To know and sometimes matche numeral and quantity correctly. To know and show curiosity about numbers by offering comments or asking questions. To know and compare two groups of objects, saying when they have the same number. To know and show an interest in number problems. To know how to Separate a group of three or four objects in different ways, beginning to recognise that the total is still the same. To know and show an interest in numerals in the environment.	To know how to: Count in multiples of twos, fives and tens. Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. **Fractions** To know how to: Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	To know how to: Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn turn right angles for quarter, half use three quarter turns (clockwise and anti clockwise). Order and arrange combinations of Use mathematical objects in patterns and sequences. **Measure – time** To know how to: Tell and write the time to five minutes,	To know how to: 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 and hours; use vocabulary such as o'clock, 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	To know how to: estimate, compare and calculate different measures, including money in pounds and pence 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 **Properties of Shape** To know how to: compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	To know how to: Solve problems involving number up to three decimal places. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. **Geometry - properties of shape** To know how to:	To know how to: draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

	To know and show an interest in representing numbers. To know and understand that not only objects, but anything can be counted, including steps, claps or jumps. Uses positional language. To know and show interest in shape by sustained construction activity or by talking about shapes or arrangements. To know and show interest in shapes in the environment. To know and to use shapes appropriately for tasks. To know and begin to talk about the shapes of everyday objects, e.g. 'round' and 'tall'	Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) Compare, describe and solve practical problems for: mass/weight [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]. **Geometry** To know how to: Describe position, direction and movement, including whole, half, quarter and three quarter turns	including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. **Measure – Mass** To know how to: Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results	taken by particular events or tasks]. **Fractions** To know how to: recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators recognise and show, using diagrams, equivalent fractions with small denominators add and subtract fractions with the same denominator within one whole eg 5/7 + 1/7 = 6/7 compare and order unit fractions, and fractions with the same denominators solve problems that involve all of the above	identify acute and obtuse angles and compare and order angles up to 2 right angles by size identify lines of symmetry in 2-D shapes presented in different orientations complete a simple symmetric figure with respect to a specific line of symmetry. **Position & Direction** To know how to: describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down	Identify 3D shapes, including cubes and other cuboids, from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees. Identify: angles at a point and one whole turn (total 360 °°), angles at a	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. **Statistics** To know how to: interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average.

	Reception To know and to use the language of 'more' and 'fewer' to compare two sets of objects. To know and to find the total number of items in two groups by counting all of them. To know and to say the number that is one more than a given number. To know and to find one more or one less from a group of up to five objects, then ten objects. In practical activities and discussion, to know and begin to use the vocabulary involved in adding and subtracting. To know and to record, using marks that they	**Place value** To know how to: 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. Given a number, identify one more and one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than, most, least. **Measure** To know how to: Recognise and know the value of	using >, < and =.	**Geometry** Pupils should be taught to: To know how to: draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them recognise angles as a property of shape or a description of a turn identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle identify horizontal and vertical lines and pairs of	plot specified points and draw sides to complete a given polygon. Statistics To know how to: interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	point on a straight line and ½ a turn (total 180 °°) other multiples of 90 **Geometry – position and direction** To know how to: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. **Measure – converting units** To know how to: Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and	

	can interpret and explain. To know and begin to identify own mathematical problems based on own interests and fascinations. To know and to order two or three items by length or height. To know and to order two items by weight or capacity. To know and to use familiar objects and common shapes to create and recreate patterns and build models. To know and to use everyday language related to time. To know and to begin to use everyday language related to money. To know, to order and sequences familiar events.	different denominations of coins and notes. Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Recognise and use language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later].		perpendicular and parallel lines.		ml]. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Solve problems involving converting between units of time. **Measurement – volume** To know how to: Estimate volume [for example using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]. Use all four operations to solve problems involving	

	To know and to measure short periods of time in simple ways.	Measure and begin to record time (hours, minutes, seconds).					