

National Curriculum Progress Mapping White Rose Scheme of Learning

Place Value: Counting

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 4 • Begins to say numbers in order, some which are in the right order (ordinality) Range 5 • May enjoy counting verbally as far as they can go • Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5. • Uses some number names and number language within play, and may show fascination with large numbers • Begin to recognise numerals 0 to 10 • Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle) • Beginning to recognise that each counting number is one more than the one before Range 6 Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0 • Increasingly confident at putting numerals in order 0 to 10 (ordinality) • Counts out up to 10 objects from a larger group ELG - Have a deep understanding of number to 10, including the composition of each number;- Subitise (recognise quantities without counting) up to 5;	• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Count numbers to 100 in numerals; count in multiples of twos, fives and tens.	• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.	• count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.	• count in multiples of 6, 7, 9, 25 and 1000. • count backwards through zero to include negative numbers.	• count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. • count forwards and backwards with positive and negative whole numbers, including through zero. <i>*negative numbers are introduced in yr.</i>	

- Verbally count beyond 20, recognising the pattern of the counting system;						
Taught: Autumn Spring Summer	Taught: Autumn Spring Summer	Taught: Autumn	Taught: Autumn	Taught: Autumn	Taught: Autumn Summer	

Place Value: Represent						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 4 • In everyday situations, takes or gives two or three objects from a group • Beginning to notice numerals (number symbols) • Beginning to count on their fingers. Range 5 • Subitises one, two and three objects (without counting) • Links numerals with amounts up to 5 and maybe beyond • Explores using a range of their own marks and signs to which they ascribe mathematical meanings. Range 6 • Engages in subitising numbers to four and maybe five • Matches the numeral with a group of items to show how many there are (up to 10) ELG - Explore and represent patterns within numbers up to 10,	• identify and represent numbers using objects and pictorial representations • read and write numbers to 100 in numerals • read and write numbers from 1 to 20 in numerals and words	• read and write numbers to at least 100 in numerals and in words • identify, represent and estimate numbers using different presentations, including the number line	• identify, represent and estimate numbers using different representations • read and write numbers up to 1000 in numerals	• 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	• read, write, (order and compare) numbers to at least 1000 000 and determine the value of each digit • read Roman numerals to 1000 (M) and recognise years written in Roman numerals	• read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit
Taught:	Taught:	Taught:	Taught:	Taught:	Taught:	Taught:

Autumn Spring Summer	Autumn Spring Summer	Autumn	Autumn	Autumn	Autumn	Autumn
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Place Value: Use and Compare						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 4 - Beginning to compare and recognise changes in numbers of things, using words like more, lots or 'same' Range 5 - Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same! - Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same Range 6 - Uses number names and symbols when comparing numbers, showing interest in large numbers - Estimates of numbers of things, showing understanding of relative size - Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects - Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees	given a number, identify one more and one less	- recognise the place value of each digit in a two-digit number (tens, ones) - compare and order numbers from 0 up to 100; use and = signs	- recognise the place value of each digit in a three-digit number (hundreds, tens, ones) - compare and order numbers up to 1000	- find 1000 more or less than a given number - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) - order and compare numbers beyond 1000	(read, write) order and compare numbers to at least 1000 000 and determine the value of each digit	(read, write), order and compare numbers up to 10 000 000 and determine the value of each digit

six raisins on a plate as three and three ELG - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;						
Taught: Autumn Spring Summer	Taught: Autumn Spring Summer	Taught: Autumn	Taught: Autumn	Taught: Autumn	Taught: Autumn	Taught: Autumn

Place Value: Problems/Rounding						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 5 • Beginning to use understanding of number to solve practical problems in play and meaningful Activities.		use place value and number facts to solve problems	solve number problems and practical problems involving these ideas	- round any number to the nearest 10, 100 or 1000 - solve number and practical problems that involve all of the above and with increasingly large positive numbers	- interpret negative numbers in context - round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100000 - solve number problems and practical problems that involve all of the above	- round any whole number to a required degree of accuracy - use negative numbers in context, and calculate intervals across zero - solve number and practical problems that involve all of the above
Taught: Autumn Spring		Taught: Autumn	Taught: Autumn	Taught: Autumn	Taught: Autumn	Taught: Autumn

Addition and Subtraction: Calculations						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 5 • Through play and exploration, beginning to	add and subtract one-digit and two digit numbers to 20, including zero	add and subtract numbers using concrete objects,	add and subtract numbers mentally, including:	add and subtract numbers with up to 4 digits using the	add and subtract	perform mental calculations, including with

learn that numbers are made up (composed) of smaller numbers Range 6 - Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects - Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-“ - In practical activities, adds one and subtracts one with numbers to 10 ELG - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally		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	- 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	formal written methods of columnar addition and subtraction where appropriate	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.	mixed operations and large numbers use their knowledge of the order of operations to carry out calculations involving the four operations
Taught: Autumn Spring Summer	Taught: Autumn Spring	Taught: Autumn	Taught: Autumn	Taught: Autumn	Taught: Autumn	Taught: Autumn

Addition and Subtraction: Problems						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Range 6 • Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-”	• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	• solve problems with addition and subtraction: - using concrete objects and pictorial representations, including those involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods	• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	• solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the.	• solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why
Taught: Autumn Spring Summer	Taught: Autumn Spring	Taught: Autumn	Taught: Autumn	Taught: Autumn	Taught: Autumn	Taught: Autumn

Multiplication and Division: Recall/Use						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 4 • Beginning to compare and recognise changes in numbers of things, using words like more, lots or ‘same’ Range 5		• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • show that multiplication of two numbers can be done in	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	• 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:	• 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	• identify common factors, common multiples and prime numbers • use estimation to check answers to calculations and determine, in the context of a

• Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same! • Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same ELG - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally		any order (commutative) and division of one number		multiplying by 0 and 1; dividing by 1; multiplying together three numbers • recognise and use factor pairs and commutativity in mental calculations	numbers, prime factors and composite (nonprime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	problem, an appropriate degree of accuracy
		Taught: Spring	Taught: Autumn Spring	Taught: Autumn Spring	Taught: Autumn	Taught: Autumn
	Multiplication and Division: Calculations					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		• calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs	• 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 and progressing to formal written methods	• multiply two-digit and three-digit numbers by a one-digit number using formal written layout	• 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 1000	• 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 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 and large numbers
		Taught: Spring	Taught: Autumn Spring	Taught: Spring	Taught: Autumn Spring	Taught: Autumn

Multiplication and Division: Problems						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• 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	• solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context	• solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	• solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	• solve problems involving addition, subtraction, multiplication and division
	Taught: Spring Summer	Taught: Spring	Taught: Spring	Taught: Spring	Taught: Autumn Spring	Taught: Autumn
Multiplication and Division: Combined						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	• use their knowledge of the order of operations to carry out calculations involving the four operations
					Taught: Spring	Taught: Autumn

Fractions: Recognise and write						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	- 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	recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 - recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators - recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	- 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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]	
	Taught: Summer	Taught: Summer	Taught: Spring	Taught: Spring Summer	Taught: Autumn	
	Fractions: Compare					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	- recognise and show, using diagrams, equivalent fractions with small denominators - compare and order unit fractions, and fractions with the same denominators	recognise and show, using diagrams, families of common equivalent fractions	compare and order fractions whose denominators are all multiples of the same number	- use common factors to simplify fractions; use common multiples to express fractions in the same denomination - compare and order fractions, including fractions > 1
		Taught: Summer	Taught: Spring	Taught: Spring	Taught: Spring	Taught: Autumn

Fractions: Calculations						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		• write simple fractions for example, $\frac{1}{2}$ of 6 = 3	• add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]	• add and subtract fractions with the same denominator	• 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	• 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 • divide proper fractions by whole numbers
		Taught: Summer	Taught: Summer	Taught: Spring	Taught: Autumn Spring	Taught: Autumn
Fractions: Solve Problems						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			• solve problems that involve all of the above	• solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is		
			Taught: Spring Summer	Taught: Spring		

Decimals: Recognise, Write and Compare

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				• recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places	• read and write decimal numbers as fractions • 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 • read, write, order and compare numbers with up to three decimal places	• identify the value of each digit in numbers given to three decimal places
				Taught: Spring Summer	Taught: Spring Summer	Taught: Spring

Fractions, Decimals and Percentages

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				• solve simple measure and money problems involving fractions and decimals to two 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 $\frac{1}{2}$, $\frac{1}{4}$, $\frac{15}{100}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	• associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

				Taught: Spring Summer	Taught: Spring	Taught: Spring
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Ratio and Proportion						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						• 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/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
						Taught: Spring
Algebra						
Note: although formal algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the ‘missing number’ objectives from Y1/2/3						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	• solve problems, including missing number problems			• 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 0

						Taught: Spring
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Measurement: <u>Using measures</u>						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 4 • Explores differences in size, length, weight and capacity • Beginning to understand some talk about immediate past and future • Beginning to anticipate times of the day such as mealtimes or home time Range 5 In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items • Recalls a sequence of events in everyday life and stories Range 6 • Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy • Becomes familiar with measuring tools in everyday experiences and play • Is increasingly able to order and sequence events using everyday language related to time • Beginning to experience measuring time with timers and calendar	• compare, describe and solve practical problems for: -lengths and heights - mass/weight - capacity and volume –time • measure and begin to record the following: - lengths and heights - mass/weight -capacity and volume -time (hours, minutes, seconds)	•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 using >, < and =	• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	• Convert between different units of measure [for example, kilometre to metre; hour to minute] • estimate, compare and calculate different measures	• convert between different units of metric measure • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	• solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 d.p. where appropriate • 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 d.p. • convert between miles and kilometres
Taught: Autumn Spring	Taught: Spring Summer	Taught: Spring	Taught: Spring Summer	Taught: Spring Summer	Taught: Spring Summer	Taught: Autumn

Summer						
Money						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	recognise and know the value of different denominations of coins and notes	- 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 simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	add and subtract amounts of money to give change, using both £ and p in practical contexts	estimate, compare and calculate different measures, including money in pounds and pence	use all four operations to solve problems involving measure [for example, money]	
	Taught: Spring Summer	Taught: Spring	Taught: Summer	Taught: Summer	Taught: Summer	

Time						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	- 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	- compare and sequence intervals of time - tell and write the 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	- 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	- Convert between different units of measure [for example, kilometre to metre; hour to minute] - estimate, compare and calculate different measures	solve problems involving converting between units of time	use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa <i>Note – In the WRM schemes, time conversions are covered in Y5; the Y6 block concentrates on metric units.</i>

			time taken by particular events or tasks]			
	Taught: Summer	Taught: Summer	Taught: Summer	Taught: Summer	Taught: Summer	Taught: Autumn
	Perimeter, Area and Volume					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			• measure the perimeter of simple 2-D shapes	• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares	• 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 • estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water]	• 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
			Taught: Spring	Taught: Autumn Spring	Taught: Spring Summer	Taught: Spring

Geometry 2D shapes						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 4 • Chooses puzzle pieces and tries to fit them in • Recognises that two objects have the same shape • Makes simple constructions Range 5 • Chooses items based on their shape which are appropriate for the child's purpose • Responds to both informal language and common shape names • Shows awareness of shape similarities and differences between objects • Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes • Attempts to create arches and enclosures when building, using trial and improvement to select blocks Range 6 • Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes. • Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes • Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build.	• recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles]	• identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D shapes and everyday objects	• draw 2-D shapes	• compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify lines of symmetry in 2-D shapes presented in different orientations	distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • use the properties of rectangles to deduce related facts and find missing lengths and angles	• draw 2-D shapes using given dimensions and angles • compare and classify geometric shapes based on their properties and sizes • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
Taught:	Taught:	Taught:	Taught:	Taught:	Taught:	Taught:

Autumn Spring Summer	Autumn	Autumn	Summer	Summer	Summer	Autumn
3D Shapes						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 5 • Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes	• recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]	• recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] • compare and sort common 3-D shapes and everyday objects	• make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them		• identify 3-D shapes, including cubes and other cuboids, from 2-D representations	• recognise, describe and build simple 3-D shapes, including making nets
Taught: Autumn Spring Summer	Taught: Autumn	Taught: Autumn	Taught: Summer		Taught: Summer	Taught: summer

Angles and lines						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			• 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 perpendicular and parallel lines	• identify acute and obtuse angles and compare and order angles up to two 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	• 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 point on a straight line and ½ a turn (total 180°) - other multiples of 90°	• find unknown angles in any triangles, quadrilaterals, and regular polygons • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
			Taught: Summer	Taught: Summer	Taught: Summer	Taught: Summer
Position and Direction						

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Range 4 • Moves their bodies and toys around objects and explores fitting into spaces • Begins to remember their way around familiar environments • Responds to some spatial and positional language • Explores how things look from different viewpoints including things that are near or far away Range 5 • Responds to and uses language of position and direction • Predicts, moves and rotates objects to fit the space or create the shape they would like Range 6 • Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints • Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning) • May enjoy making simple maps of familiar and imaginative environments, with landmarks	• describe position, direction and movement, including whole, half, quarter and three-quarter turns	• 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 quarter, half and three-quarter turns (clockwise and anticlockwise)		• 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 • plot specified points and draw sides to complete a given polygon	• 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	• describe positions on the full coordinate grid (all four quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes
Taught: Autumn Spring Summer	Taught: Summer	Taught: Summer		Taught: Summer	Taught: Summer	Taught: summer

Statistics Present and Interpret Data						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		interpret and construct simple pictograms, tally charts, block diagrams and simple tables	interpret and present data using bar charts, pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	complete, read and interpret information in tables, including timetables	interpret and construct pie charts and line graphs and use these to solve problems
		Taught: Summer	Taught: Summer	Taught: Summer	Taught: Spring	Taught: Spring
Solve Statistical Problems						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		- 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	solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	solve comparison, sum and difference problems using information presented in a line graph	calculate and interpret the mean as an average
		Taught: Summer	Taught: Summer	Taught: Summer	Taught: Spring	Taught: Spring