Woodside School Maths Progression

Number and Place Value				
Year 2 (prior learning)	Year 3	Year 4	Year 5	Year 6
		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	
			Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero	Use negative numbers in context, and calculate intervals across zero
Count in multiples 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	count in multiples of 6, 7, 9, 25 and 1000		
	find 10 or 100 more or less than a given number	find 1000 more or less than a given number		
Identify, represent and estimate numbers using different representations, including the number line	identify, represent and estimate numbers using different representations	identify, represent and estimate numbers using different representations		
Read and write numbers to at least 100 in numerals and words	read and write numbers up to 1000 in numerals and words		Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	Read, write, order and compare numbers to at least 10,000,000 and determine the value of each digit
Compare and order numbers from 0 to 100: Use <, > and = signs	Compare and order numbers up to 1000	Compare and order numbers beyond 1000		
Recognise the place value of each digit in a two-digit number (tens and ones)	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)		
		Round any number to the nearest 10, 100, 1000	Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000	Round any whole number to a required degree of accuracy
		Read Roman numerals to 100 (I – C) and know that over time, the numeral system changed to include the concept of zero and place value	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	
Use place value and number facts to solve problems	Solve number problems and practical problems involving these ideas	Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	Solve number problems and practical problems that involve all of the above	Solve number problems and practical problems that involve all of the above

Addition and Subtraction				
Year 2 (prior learning)	Year 3	Year 4	Year 5	Year 6
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 -a two two-digit numbers -adding three one-digit numbers	Add and subtract number mentally, including: -a 3 digit number and ones -a 3 digit number and tens -a 3 digit number and 100s		add and subtract numbers mentally with increasingly large numbers	perform mental calculations, including with mixed operations and large numbers
show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot				
	Add and subtract numbers with up to 3 digits, using formal written methods or column addition and subtraction	add and subtract numbers with up to 4 digits using the formal written methods of column addition and subtraction where appropriate	add and subtract whole numbers with more than 4 digits, including using formal written methods (column addition and subtraction)	
recognise and use the inverse relationship between addition and subtraction and use this to check calculations	Estimate the answer to a calculation and use inverse operations to check answers	estimate and use inverse operations to check answers to a calculation	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
				use their knowledge of the order of operations to carry out calculations involving the four operations
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. Use the inverse relationship between addition and subtraction to solve missing number problems	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 multi-step problems in contexts, deciding which operations and methods to use and why	-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

	Multiplication and Division				
Year 2 (prior learning)	Year 3	Year 4	Year 5	Year 6	
recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	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 recognise and use factor pairs	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	identify common factors, common multiples and prime numbers	
calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs					
8.6.10			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		
show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot		Recognise and use commutativity in mental calculations			
	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 multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	
	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods		multiply and divide numbers mentally drawing upon known facts	perform mental calculations, including with mixed operations and large numbers	
			divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	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	

		use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	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
			recognise and use square numbers and cube numbers , and the notation for squared and cubed	use their knowledge of the order of operations to carry out calculations
solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	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 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	involving the four 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 appropriate degree of accuracy

	Fractions, Decimals and Percentages				
Year 2 (prior learning)	Year 3	Year 4	Year 5	Year 6	
				associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]	
recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½		recognise and show, using diagrams, families of common equivalent fractions recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to 1/4, 1/2, 3/4	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths read and write decimal numbers as fractions [for example, 0.71 = 71/100]	identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places use common factors to simplify fractions; use common multiples to express fractions in the same denomination	
		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		CETOTIMICATOR	
	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	count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents		
			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, 2/5 + 4/5 = 6/5 = 1 1/5]		
	compare and order unit fractions, and fractions with the same denominators		compare and order fractions whose denominators are all multiples of the same number	compare and order fractions, including fractions > 1	
	recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators				
	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	add and subtract fractions with the same	add and subtract fractions with the	add and subtract fractions with
denominator within one whole [for example,	denominator	same denominator and	different denominators and mixed
5/7 + 1/7 = 6/7	denominator	denominators that are multiples of	numbers, using the concept of
3/7 + 1/7 - 0/7]		•	equivalent fractions
		the same number	
		multiply proper fractions and mixed	multiply simple pairs of proper
		numbers by whole numbers,	fractions, writing the answer in its
		supported by materials and diagrams	simplest form [for example, 1/4 ×
			1/2 = 1/8]
			multiply one-digit numbers with up
			to two decimal places by whole
			numbers
			divide proper fractions by whole
			numbers [for example, 1/3 ÷ 2 =
			1/6]
			use written division methods in
			cases where the answer has up to
			two decimal places
	round decimals with one decimal place	round decimals with two decimal	
	to the nearest whole number	places to the nearest whole number	
		and to one decimal place	
	compare numbers with the same	read, write, order and compare	
	number of decimal places up to two	numbers with up to three decimal	
	decimal places	places	
		recognise the per cent symbol (%)	recall and use equivalences
		and understand that per cent relates	between simple fractions , decimals
		to 'number of parts per hundred',	and percentages, including in
		and write percentages as a fraction	different contexts
		with denominator 100, and as a	
		decimal	
		solve problems which require	Solve problems involving the
		knowing percentage and decimal	calculation of percentages (for
		equivalents of 1/2 , 1/4 , 1/5 , 2/5 ,	example 15% of 360) and the use
		4/5 and those fractions with a	of percentages for comparison
		denominator of a multiple of 10 or	
		25.	
solve problems that involve all of the above	solve problems involving increasingly	solve problems involving number up	solve problems which require
	harder fractions to calculate quantities,	to three decimal places	answers to be rounded to specified
	and fractions to divide quantities,		degrees of accuracy
	including non-unit fractions where the		
	answer is a whole number		
	solve simple measure and money		
	problems involving fractions and		
	decimals to two decimal places		

Ratio and proportion				
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 of percentages [for example, of measures, and such as 15% of 360] 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				
Year 3	Year 4	Year 5	Year 6	
			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 two variables.	

Measurement				
Year 2 (prior learning)	Year 3	Year 4	Year 5	Year 6
choose and use appropriate	measure, compare, add and subtract:	Convert between different units of	convert between different units of	solve problems involving the
standard units to estimate and	lengths (m/cm/mm); mass (kg/g);	measure [for example, kilometre to	metric measure (for example,	calculation and conversion of units
measure length/height in any	volume/capacity (I/mI)	metre; hour to minute]	kilometre and metre; centimetre and	of measure, using decimal notation
direction (m/cm); mass (kg/g);			metre; centimetre and millimetre;	up to three decimal places where
temperature (°C); capacity			gram and kilogram; litre and	appropriate
(litres/ml) to the nearest			millilitre)	
appropriate unit, using rulers,				use, read, write and convert
scales, thermometers and			understand and use approximate	between standard units, converting
measuring vessels			equivalences between metric units	measurements of length, mass,
			and common imperial units such as	volume and time from a smaller
compare and order lengths,			inches, pounds and pints	unit of measure to a larger unit,
mass, volume/capacity and				and vice versa, using decimal
record the results using >, < and			use all four operations to solve	notation to up to three decimal
=			problems involving measure [for	places
			example, length, mass, volume,	

			money] using decimal notation, including scaling.	convert between miles and kilometres
	Area, perimeter, volume measure the perimeter of simple 2-D shapes	Area, perimeter, volume measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Area, perimeter, volume measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	Area, perimeter, volume recognise that shapes with the same areas can have different perimeters and vice versa
		find the area of rectilinear shapes by counting squares	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	recognise when it is possible to use formulae for area and volume of shapes calculate the area of parallelograms and triangles
			estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	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 [for example, mm3 and km3].
Money recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	Money add and subtract amounts of money to give change, using both £ and p in practical contexts	Money estimate, compare and calculate different measures, including money in pounds and pence		
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				
Time compare and sequence intervals of time tell and write the time to five minutes, including quarter past/to the hour and draw the	Time tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	Time read, write and convert time between analogue and digital 12- and 24-hour clocks	Time solve problems involving converting between units of time	

hands on a clock face to show	estimate and read time with increasing	solve problems involving converting from	
these times	accuracy to the nearest minute; record	hours to minutes; minutes to seconds;	
	and compare time in terms of seconds,	years to months; weeks to days	
know the number of minutes in	minutes and hours; use vocabulary such		
an hour and the number of	as o'clock, a.m./p.m., morning, afternoon,		
hours in a day	noon and midnight		
	know the number of seconds in a minute and the number of days in each month, year and leap year		
	compare durations of events [for example		
	to calculate the time taken by particular		
	events or tasks].		

		Geometry- properties of shape		
Year 2 (prior learning)	Year 3	Year 4	Year 5	Year 6
identify and describe the	draw 2-D shapes and make 3-D shapes	compare and classify geometric shapes,	identify 3-D shapes , including cubes	draw 2-D shapes using given
properties of 2-D shapes,	using modelling materials; recognise 3-D	including quadrilaterals and triangles,	and other cuboids, from 2-D	dimensions and angles
including the number of sides	shapes in different orientations and	based on their properties and sizes	representations	
and line symmetry in a vertical	describe them			recognise, describe and build
line		identify lines of symmetry in 2-D shapes	distinguish between regular and	simple 3-D shapes , including
		presented in different orientations	irregular polygons based on	making nets
identify and describe the			reasoning about equal sides and	
properties of 3-D shapes,		complete a simple symmetric figure with	angles	compare and classify geometric
including the number of edges,		respect to a specific line of symmetry.		shapes based on their properties
vertices and faces				and sizes and find unknown angles
				in any triangles, quadrilaterals, and
identify 2-D shapes on the				regular polygons
surface of 3-D shapes, [for				
example, a circle on a cylinder				illustrate and name parts of circles,
and a triangle on a pyramid]				including radius, diameter and
				circumference and know that the
compare and sort common 2-D				diameter is twice the radius
and 3-D shapes and everyday				
objects				
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	recognise angles as a property of shape or	identify acute and obtuse angles and	know angles are measured in	recognise angles where they meet
	a description of a turn	compare and order angles up to two	degrees: estimate and compare	at a point, are on a straight line, or
	identify wight angles recognise that two	right angles by size	acute, obtuse and reflex angles	are vertically opposite, and find
	identify right angles , recognise that two right angles make a half-turn, three make		draw given angles, and measure	missing angles.
	three quarters of a turn and four a		them in degrees	
	complete turn; identify whether angles		lileili ili degrees	
	are greater than or less than a right angle		Identify:	
	are greater trian or less trian a right aligne		identify.	

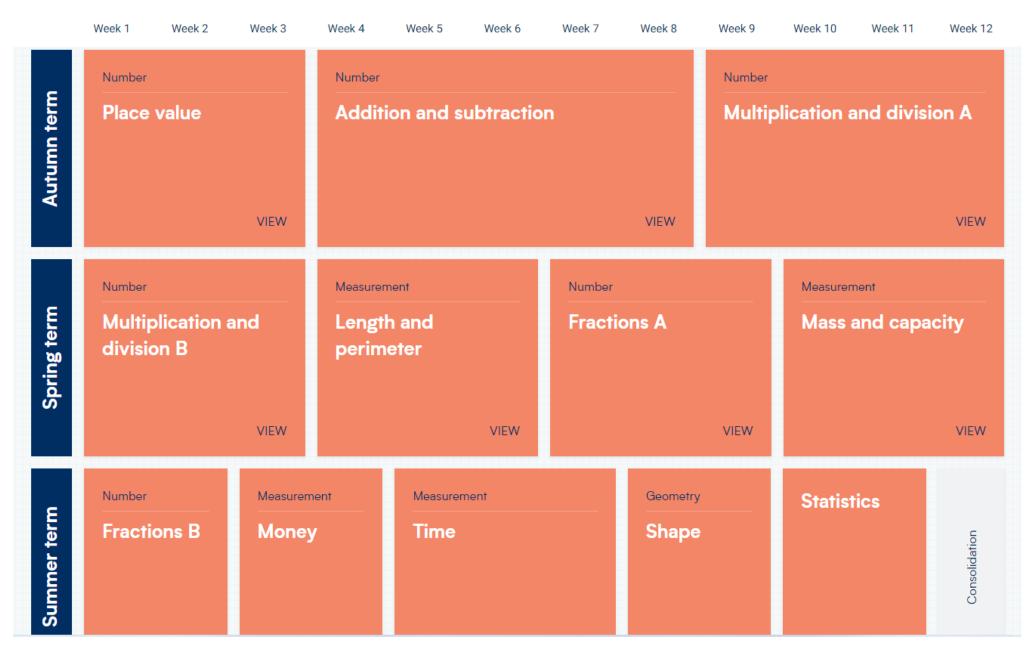
identify horizontal and vertical lines and pairs of perpendicular and parallel lines .	-angles at a point and one whole turn (360 degrees) - angles at a point on a straight line and 1/2 a turn (total 180 degrees) - other multiples of 90 degrees	
	use the properties of rectangles to deduce related facts and find missing lengths and angles	

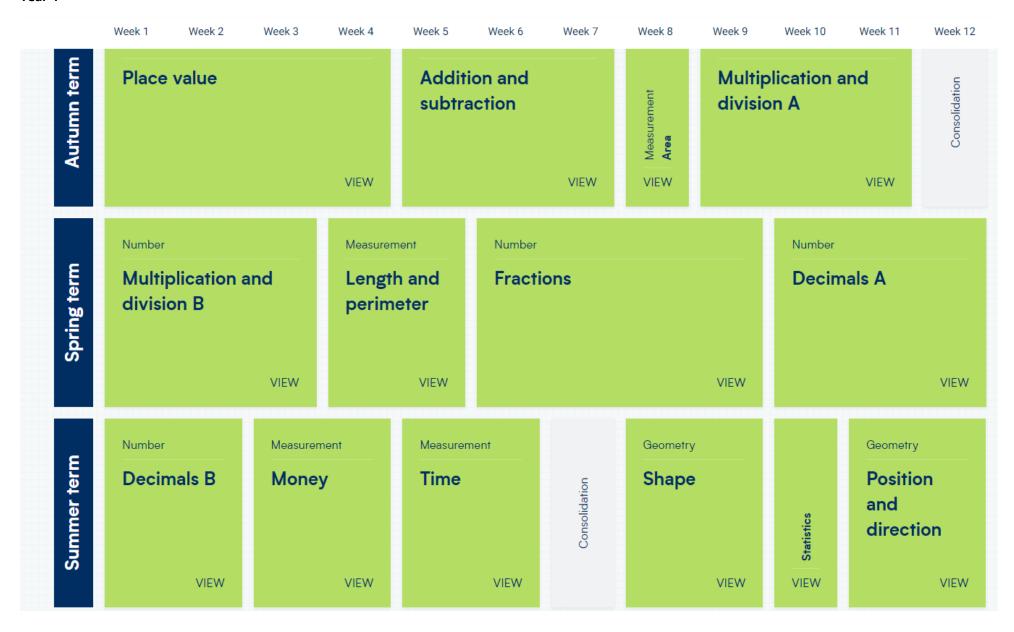
Geometry- Position and Direction								
Year 2 (prior learning)	Year 3	Year 4	Year 5	Year 6				
order and arrange combinations								
of mathematical objects in								
patterns and sequences								
use mathematical vocabulary to								
describe position , direction and								
movement, including 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		describe positions on the full				
				coordinate grid (all four				
		coordinates in the first quadrant		quadrants)				
		describe movements between positions	identify, describe and represent the	draw and translate simple shapes				
		as translations of a given unit to the	position of a shape following a	on the coordinate plane, and				
		left/right and up/down	reflection or translation, using the	reflect them in the axes				
		lert/right and up/down	appropriate language, and know that	Tenect them in the axes				
			the shape has not changed.					
			the shape has not changed.					
		plot specified points and draw sides to						
		complete a given polygon						

Statistics								
Year 2 (prior learning)	Year 3	Year 4	Year 5	Year 6				
interpret and construct simple	interpret and present data using bar	interpret and present discrete and	complete, read and interpret	interpret and construct pie charts				
pictograms, tally charts, block	charts, pictograms and tables	continuous data using appropriate	information in tables, including	and line graphs and use these to				
diagrams and simple tables		graphical methods, including bar charts	timetables	solve problems				
		and time graphs.						
ask and answer simple	solve one-step and two-step questions	solve comparison, sum and difference	solve comparison, sum and	calculate and interpret the mean as				
questions by counting the	[for example, 'How many more?' and	problems using information presented in	difference problems using	an average				
number of objects in each	'How many fewer?'] using information	bar charts, pictograms, tables and other	information presented in a line graph					
category and sorting the	presented in scaled bar charts and	graphs						
categories by quantity	pictograms and tables							
ask and answer questions about								
totalling and comparing								
categorical data								

Maths overview

Year 3





	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Place value		Addition and subtraction			Multiplication and division A		Fraction	ons A			
			VIEW		VIEW			VIEW				VIEW
	Number			Number		Number			Measuren	nent	Statis	tics
Spring term	Multiplication and division B		Fracti	ons B		nals and entages		Perim and a				
65			VIEW		VIEW			VIEW		VIEW		VIEW
	Geometry			Geometry	у	Number				Measuren	nent	
Summer term	Shape			Position and direct		Decin	nals		Number Numbers Units		erting	Measurement Volume
3,			VIEW		VIEW			VIEW	VIEW		VIEW	VIEW

