

Place Value		
YG	Unit	Key Learning
1	Au1 – Numbers to 10	To know how to sort and count objects to 10 To know how to represent objects to 10 To know how to count and write to 10 To know how to count backwards from 10 to 0 To know how to count one more and one less up to 10 To know how to use one to one correspondence To know how to compare objects and numbers To know how to order objects and numbers To know how to use ordinal numbers To know how to place numbers on a number line to 10
	Au4 – Numbers to 20	To know numbers from 11 to 20 To know how to count forwards and backwards up to 20 To know how to count using tens and ones To know how to count one more and one less up to 20 To know how to compare objects and numbers up to 20 To know how to order objects and numbers up to 20
	Sp2 – Number to 50	To know how to count up to and back from 50 To know how to compare numbers and objects to 50 To know how to count one more and one less To know how to order numbers To know how to count in 2s and 5s
	Su4 – Numbers to 100	To know how to count in tens to 100 To know how to use a 100 square To know how to count forwards and backwards within 100 To know how to use tens and ones to make numbers within 100 To know how to compare numbers to 100 To know how to order numbers to 100 To know how to find numbers which add to 100
2	Au1 – Numbers to 100	To know how to count objects to 100 To know to use different ways to represent numbers to 100 To know how to use a place value chart to make and compare numbers

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		<ul style="list-style-type: none"> To know how to compare numbers to 100 To know how to order numbers to 100 To know how to count in 2s, 5s and 10s
3	Au1 – Place Value within 1,000	<ul style="list-style-type: none"> To know how to count in 100s To know how to represent numbers to 1000 To know how to partition a number in 100s, 10s and 1s To know how to find 100, 10 and 1 more or less To know how to compare numbers up to 1,000 To know how to order numbers up to 1,000 To know how to count in 50s
4	Au1 – Place Value within 10,000	<ul style="list-style-type: none"> To know how to round numbers to the nearest 10, 100, 1000 To know how to count in 1,000s To know how to represent 4-digit numbers up to 10,000 To know Roman numerals to 100 To know how to find 1, 10, 100, 1,000 more or less To know how to compare numbers to 10,000 To know how to order numbers to 10,000 To know how to count in 25s To know how to count back through 0 into negative numbers
5	Au1 – Place Value within 100,000	<ul style="list-style-type: none"> To know the value of any digit in a number up to 1,000,000 To know how to compare numbers to 1,000,000 To know how to order numbers to 1,000,000 To know how to round numbers to the nearest 10, 100, 1,000, 10,000 and 100,000 To know Roman numerals to 1000 To know the concept of negative numbers To know how to place negative numbers on a number line To know how to find the difference between a positive and a negative number To know how to find the difference between 2 negative numbers
6	Au1 – Place Value within 10,000,000	<ul style="list-style-type: none"> To know how to read and write numbers to 10,000,000 To know how to compare numbers to 10,000,000 To know how to order numbers to 10,000,000 To know how to round any number To know how to perform simple additive calculations involving negative numbers

Addition & Subtraction		
YG	Unit	Key Learning
1	Au2 - Addition & Subtraction within 10	<ul style="list-style-type: none"> To know how to use the part-whole model. To know how to use the addition symbol To know how to find fact families using addition To know number bonds within 10 To know how to compare number bonds To know how to add together, add more and use bonds. To know how to find a part and how many are left. To know how to partition the whole into parts. To know how to find related number facts To know how to count back and find the difference To know how to compare additions and subtractions
	Sp1 - Addition & Subtraction within 20	<ul style="list-style-type: none"> To know how to add by counting on To know how to find and make number bonds To know how to add by making 10 To know how to subtract without crossing 10 To know how to subtract crossing 10's barrier To know how to find links between related facts To know how to compare number sentences

2	Au2 - Addition & Subtraction	<p>To know how to find fact families using addition and subtraction bonds to 20</p> <p>To know how to check calculations</p> <p>To know how to compare number sentences</p> <p>To know bonds within 20</p> <p>To know related facts with similar digits</p> <p>To know how to make number bonds to 100</p> <p>To know how to find 10 more and 10 less</p> <p>To know how to add and subtract ones and tens</p> <p>To know how to add a 2-digit and a 1-digit number</p> <p>To know how to subtract by crossing 10</p> <p>To know how to subtract a 1-digit number from a 2-digit number by crossing ten</p> <p>To know how to add and subtract two 2-digit numbers</p> <p>To know how to add three 1-digit numbers</p>
3	Au2 - Addition & Subtraction	<p>To know how to add and subtract multiples of 100</p> <p>To know how to add and subtract 1s and 10s to 3-digit numbers</p> <p>To know how to add and subtract 3-digit and 1 and 2-digit numbers</p> <p>To know how and when to exchange 1s, 10s and 100s</p> <p>To know how to add and subtract 100s</p> <p>To know how to add and subtract using mental and written methods</p> <p>To know how to add and subtract two 2-digit numbers</p> <p>To know how to add and subtract 3-digit numbers</p> <p>To know how to exchange across more than one column</p> <p>To know how to solve mixed addition and subtraction problems</p> <p>To know how to estimate and check answers</p> <p>To know how to use bar models to solve 1- and 2-step problems</p>
4	Au 3 - Addition & Subtraction	<p>To know how to add and subtract 1s, 10s, 100s and 1,000s</p> <p>To know how to add and subtract two 4-digit numbers using the column method</p> <p>To know efficient strategies for subtraction</p> <p>To know how to estimate and check answers</p>
5	Au 2 - Addition & Subtraction	<p>To know how to add and subtract numbers with up to 5 digits using the column method</p> <p>To know how to round numbers to estimate and approximate</p> <p>To know how to use inverse operations for addition and subtraction</p> <p>To know how to solve multi-step addition and subtraction problems</p>

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9	Au2 - Four operations	<ul style="list-style-type: none"> To know how to add and subtract numbers with up to 7 digits using the column method To know checking strategies for calculations To know how to reason from known facts To know how to use inverse operations for addition and subtraction To know how to solve mental calculations and make estimations
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Multiplication & Division		
YG	Unit	Key Learning
1	Su1 – Multiplication and division	<ul style="list-style-type: none"> To know how to count in 10s, 5s and 2s To know how to make and add equal groups To know how to make arrays To know how to make doubles To know how to make equal groups – grouping and sharing To know how to share amounts equally
2	Au4 – Multiplication & Division	<ul style="list-style-type: none"> To know how to make and add equal groups To know how to redistribute from unequal to equal groups To know how to make arrays

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	Sp1 - Multiplication & Division	<ul style="list-style-type: none"> To know how to recognise, make and add equal groups To know how to write multiplication sentences using the x symbol and pictures To know how to find doubles To know 2, 5, 10 times table To know how to make equal groups by sharing and grouping To know how to divide by 2 To know how to divide by 5 and 10
3	Au3 - Multiplication & Division	<ul style="list-style-type: none"> To know when groups are equal and when they are not To know how to multiply and divide by 3, 4 and 8
	Sp1 - Multiplication & Division	<ul style="list-style-type: none"> To know how to compare multiplication and division statements To know related calculations To know how to multiply 2 digits by 1 digit To know how to divide 2 digits by 1 digit To know how to use multiplication to scale
4	Au 4 - Multiplication & Division	<ul style="list-style-type: none"> To know how to multiply by and divide by 100 by making links to by 10 To know how to multiply and divide by 0 and 1 To know how to multiply and divide by 6, 7, 9
	Sp1 - Multiplication & Division	<ul style="list-style-type: none"> To know how to multiply and divide by 11 and 12 To know how to multiply 3 numbers To know factor pairs To know how to choose efficient multiplication methods To know written methods To know how to multiply and divide 2-digits by 1 digit using the formal multiplication method. To know how to multiply and divide 3-digits by 1 digit To know how to solve correspondence problems
5	Au 4 - Multiplication & Division	<ul style="list-style-type: none"> To know and find multiples and factors To know common factors To know and identify prime numbers To know how to calculate square and cube numbers To know how to use inverse operations To know how to multiply and divide by 10, 100 and 1,000 To know how to multiply and divide by multiples of 10, 100 and 1,000

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	Sp1 - Multiplication & Division	<p>To know how to multiply a number up to 4 digits by a 1- or 2-digit number using column multiplication</p> <p>To know how to divide a number up to 4 digits by a 1-digit number</p> <p>To know how to divide with remainders</p>
9	Au2 - ASMD	<p>To know how to multiply a number up to 4 digits by a 2-digit number</p> <p>To know common factors and multiples</p> <p>To know primes to 100</p> <p>To know squares and cubes</p> <p>To know the order of operations</p> <p>To know how to use short division</p> <p>To know how to divide using factors</p> <p>To know how to use long division</p>

Geometry		
YG	Unit	Key Learning
1	Au3 - Shape	<p>To know the names of 3D shapes (sphere, cone, cube, cuboid, cylinder, pyramid)</p> <p>To know how to sort 3D shapes</p> <p>To know the names of 2D shapes (squares, triangles, rectangles, circles)</p> <p>To know how to sort 2D shapes</p> <p>To know how to make patterns with 2D and 3D shapes</p>
	Su3 - Position & Direction	<p>To know how to describe turns</p> <p>To know how to describe position</p> <p>To know how to use the words left and right, forwards and backwards, above and below</p>

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2	Spr3 - Properties of Shape	<p>To know the names of 2D (squares, triangles, rectangles, circles) and 3D shapes (cubes, cuboids, cylinders, triangular prisms, pyramids - including cones)</p> <p>To know how to count the sides and vertices on 2D shapes (including pentagons and hexagons)</p> <p>To know how to draw 2D shapes</p> <p>To know what symmetry is</p> <p>To know how to sort 2D and 3D shapes</p> <p>To know how to make patterns with 2D and 3D shapes</p> <p>To know how to count faces, vertices and edges on 3D shapes.</p>
	Su2 – Position & Direction	<p>To know how to describe movement and turns</p> <p>To know how to make patterns with shapes</p>
3	Su3 – Properties of Shape	<p>To know angles are a measure of a turn</p> <p>To know what right angles are</p> <p>To know how to identify right angles</p> <p>To know how to compare angles</p> <p>To know how to draw accurately</p> <p>To know what parallel and perpendicular lines are</p> <p>To know how to draw parallel and perpendicular lines</p> <p>To know what vertical and horizontal lines are</p> <p>To know how to draw vertical and horizontal lines</p> <p>To know how to describe 2D shapes</p> <p>To know how to describe 3D shapes (cube, cuboid, prisms including cylinders, pyramids including cones)</p> <p>To know how to make 3D shapes</p>
4	Su5 – properties of shapes	<p>To know types of angles</p> <p>To know how to compare and order angles</p> <p>To know the names of triangles – scalene, isosceles, equilateral and right-angled</p> <p>To know how to describe triangles</p> <p>To know the names of quadrilaterals (trapezium, parallelogram, rhombus)</p> <p>To know how to describe quadrilaterals</p> <p>To know how to identify lines of symmetry in shapes and patterns</p>

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	Su6 – Position & Direction	<ul style="list-style-type: none"> To know what the first quadrant is To know what a coordinate is To know how to describe position in the first quadrant using co-ordinates To know how to plot points on a grid To know how to move points on a grid To know how to describe movements on a grid
5	Su2 - Properties of Shape	<ul style="list-style-type: none"> To know how to measure angles in degrees using a protractor To know how to draw lines and angles accurately To know how to calculate angles on a straight line, around a point To know how to calculate lengths and angles in shapes To know what regular and irregular polygons are
	Su3 - Position & Direction	<ul style="list-style-type: none"> To know how to identify positions in the first quadrant To know how to translate shapes on a grid To know how to translate shapes using coordinates To know how to reflect shapes in a mirror line To know how to reflect shapes using co-ordinates
6	Au4 – Position & Direction	<ul style="list-style-type: none"> To know what the four quadrants are To know how to plot and read co-ordinates in all four quadrants To know how to translate shapes in all 4 quadrants To know how to reflect shapes in all 4 quadrants
	Su1 - Properties of Shape	<ul style="list-style-type: none"> To know how to measure angles and draw shapes accurately using a ruler and protractor To know that vertically opposite angles are the same To know how to find angles in a triangle To know how to find missing angles in a triangle To know how to calculate angles in quadrilaterals and regular polygons To know how to draw nets of 3D shapes

Measures		
YG	Unit	Key Learning

White Rose Key Learning Overview

1	Spr3 - Introducing Length & Height	<ul style="list-style-type: none"> To know how to compare lengths and heights of objects To know how to use non-standard units to measure objects To know how to measure with a ruler To know how to solve addition and subtraction word problems about length and height.
	Spr4 - Introducing Weight & Volume	<ul style="list-style-type: none"> To know how to measure mass using non-standard units and balance scales To know how to compare mass To know how to measure capacity using non-standard units To know how to compare the capacity of objects (using language of full, half-full, empty) To know how to solve simple word problems about weight and volume.
	Sum6 - Time	<ul style="list-style-type: none"> To know how to order events using before or after To know how to use a calendar to count days To know how to tell time to the hour and the half hour To know how to write time To know how to compare time
	Sum5 - Money	<ul style="list-style-type: none"> To know the value of coins and notes To know how to count coins
2	Au3 – Money	<ul style="list-style-type: none"> To know how to count coins and notes To know how to compare different amounts of money To know how to find different ways to make the same amount To know how to work out the amount of change To know how to find the total of 2 amounts of money To know how to find the difference between 2 amounts of money To know how to solve two-step problems involving money
	Sum1– Length & Height	<ul style="list-style-type: none"> To know how to measure objects in centimetres and metres To know how to compare and order lengths To know how to solve word problems using the 4 operations about length
	Su3 – Time	<ul style="list-style-type: none"> To know how to tell the time to the hour, the half hour and quarter hour To know how to tell the time to five minutes To know how to find start and end times To know how to find out how long something lasts To know how to compare amounts of time

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	Su4 - Mass, Capacity & Temperature	<ul style="list-style-type: none"> To know how to compare and measure mass using non-standard units To know how to measure mass in grams (in increments of 5g up to 100g) To know how to measure mass in kg To know how to compare and measure volume using non-standard units To know how to measure volume in ml (in increments of 5ml up to 100ml) To know how to measure volume in l To know how to read a thermometer with positive values
3	Sp2 – Money	<ul style="list-style-type: none"> To know how to record money in £ and p To know how to convert p to £ To know how to add and subtract amounts of money To know how to find change
	Sp4 – Length and perimeter	<ul style="list-style-type: none"> To know how to measure lengths in millimetres, centimetres and metres To know how to compare lengths To know how to add and subtract lengths To know how to measure and calculate perimeter
	Su2 – Time	<ul style="list-style-type: none"> To know the relationship between hours, days, months and years To know how to tell the time to the nearest minute To know how to tell the time using am and pm To know how to tell the time using 24-hour clock To know how to find and compare durations To know how to calculate start and end times To know how to measure time in seconds To know how to solve time problems
	Su4 – Mass and capacity	<ul style="list-style-type: none"> To know how to measure mass in kilograms and grams To know how to compare and order masses To know how to add and subtract masses To know how to measure capacity in litres and millilitres To know how to compare and order capacity To know how to add and subtract capacities
4	Au3 – Length and Perimeter	<ul style="list-style-type: none"> To know how to convert between m and km To know how to measure perimeter on a grid To know how to calculate perimeter of a rectangle To know how to calculate perimeter of rectilinear shapes

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4	Sp2 - Area	<ul style="list-style-type: none"> To know the concept of area To know how to find areas of shapes by counting squares To know how to draw shapes with different areas To know how to compare the area of different shapes
	Su2 – Money	<ul style="list-style-type: none"> To know how to write money in pounds and pence, using a decimal point To know how to order, estimate, add and subtract amounts of money To know how to solve money problems using the four operations
	Su3 - Time	<ul style="list-style-type: none"> To know how to convert between units of time To know how to convert between analogue and digital times To know how to convert between 12-hour and 24-hour times
5	Au6 – Perimeter & Area	<ul style="list-style-type: none"> To know how to measure and calculate perimeter of polygons To know how to find areas of rectangles and compound shapes To estimate the area of irregular shapes
	Su4 – Converting Units	<ul style="list-style-type: none"> To know how to convert between metric units of length, mass and capacity – kg, km, mm, ml To know how to convert imperial units into metric units To know how to convert between units of time To know how to read timetables and understand the information they show
	Su5 – Volume	<ul style="list-style-type: none"> To know the concept of volume of a shape To know how to compare and estimate the volume of different shapes To know how to estimate the capacity of different shapes
6	Sp4 – converting units	<ul style="list-style-type: none"> To know how to read and write all metric measures for length, mass and capacity To know how to convert and calculate with metric measures To know how to convert between common imperial and metric measures
	Sp5 – Perimeter, Area & Volume	<ul style="list-style-type: none"> To know how to identify and draw rectilinear shapes that have the same area. To know how to calculate the area and perimeter of rectilinear shapes To know how to calculate the area of triangles and parallelograms To know how to calculate the volume of cuboids

Statistics		
YG	Unit	Key Learning
R		
1		
2	Sp2 - Statistics	To know how to make tally charts To know how to draw and interpret pictograms, including intervals of 2, 5 and 10. To know how to use block diagrams To know how to solve word problems
3	Sp3 - Statistics	To know how to use pictograms, bar charts and tables To know how to answer questions based on information that is presented in different ways
4	Su4 - Statistics	To know how to interpret bar charts and pictograms To know how to solve comparison, sum and difference problems from bar charts and pictograms To know how to interpret line graphs
5	Au3 – Graphs and Tables	To know how to read and interpret line graphs and tables To know how to draw line graphs To know how to interpret line graphs to solve problems To know how to read and interpret two-way tables and timetables
6	Su1 - Statistics	To know how to read and interpret line graphs To know how to draw line graphs and use to solve problems To know how to read interpret pie charts To know how to draw pie charts To know how to calculate the mean

Fractions		
YG	Unit	Key Learning
1	Sum2 – Fractions	<ul style="list-style-type: none"> To know how to find a half of shapes and quantities To know how to find a quarter of shapes and quantities
2	Spr4 – Fractions	<ul style="list-style-type: none"> To know whole and equal parts To know how to recognise and find a half, a quarter and a third To know unit and non-unit fractions To know the equivalence of a half and 2 quarters To know how to find three quarters To know how to count in fractions To know how to solve problems with fractions
3	Sp5 – Fractions (1)	Recap Year 2 fractions
	Su1 – Fractions (2)	<ul style="list-style-type: none"> To know tenths as fractions and decimals To know how to count fractions on a number line To know how to calculate a fractions of a set of objects To know how to find equivalent fractions To know how to compare fractions To know how to add and subtract fractions within 1 with the same denominator
4	Sp3 – Fractions (1)	<ul style="list-style-type: none"> To know how to identify whether fractions are equivalent To know when fractions are greater than 1 To know how to count in fractions To know how to add and subtract 2 fractions greater than 1 with the same denominator To know how to subtract from whole amounts To know how to find a fraction of a quantity To know how to solve problems by calculating quantities

5	Sp2 – Fractions (1)	<ul style="list-style-type: none"> To know how to find and use equivalent fractions To know how to convert between improper fractions and mixed numbers To know how to compare and order fractions To know that fractions are divisions To know how to add and subtract fractions with the same denominator To know how to add and subtract fractions, including mixed numbers, where one denominator is a multiple of the other To know how to subtract fractions involving breaking the whole To know how to multiply fractions and mixed numbers by an integer To know how to find a non-unit fraction of an amount To know that fractions can be operators To know how to solve word problems involving fractions
	Sp5 – Decimals & Percentages	<ul style="list-style-type: none"> To know decimals as fractions To know percentages as fractions and as decimals.
6	Au3 – Fractions (1)	<ul style="list-style-type: none"> To know how to simplify fractions To know how to find the difference between fractions on a number line To know how to compare and order fractions To know how to add and subtract fractions including mixed numbers To know how to solve problems involving adding and subtracting fractions To know how to multiply any fraction by a whole number or another fraction To know how to divide a fraction by integers To know how to solve problems involving all four operations with fractions To know how to find fractions of an amount – find the whole

Decimals		
YG	Unit	Key Learning
1		
2		
3		
4	Sp4 - Decimals	To know the concept of tenths and hundredths To know how to write tenths and hundredths as decimals To know how to represent tenths and hundredths on a place value grid and number line To know how to divide 1 and 2 digits by 10 and 100
	Su1 - Decimals	To know how to make a whole To know how to write, compare and order decimals To know how to round decimals To know how to express halves and quarters as decimals
5	Sp3 – Decimals & Percentages	To know how to read and write decimals up to three decimal places, including numbers greater than 1 To know how to round decimals to nearest whole number and to one decimal place To know how to order and compare decimal numbers up to three decimal places To know how to write percentages as fractions and as decimals. To know how to find equivalent fractions, decimals and percentages

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	Su1 - Decimals	<p>To know how to add and subtract decimals within 1</p> <p>To know how to find complementary decimals to make 1</p> <p>To know how to add and subtract decimals with the same number of decimal places</p> <p>To know how to add and subtract decimals with a different number of decimal places</p> <p>To know how to add and subtract wholes and decimals</p> <p>To know to continue decimal sequences</p> <p>To know how to solve problems involving addition and subtraction of decimals</p> <p>To know how to multiply and divide decimals and whole numbers by 10, 100 and 1,000</p>
9	Sp1 – Decimals	<p>To know the value of each digit in a decimal number</p> <p>To know how to multiply and divide decimals by 10, 100 and 1,000</p> <p>To know how to convert between fractions and decimals</p> <p>To know how to multiply and divide decimals by integers</p> <p>To know how to express decimals as fractions</p> <p>To know how to express fractions to decimals</p>

Percentages		
YG	Unit	Key Learning
1		
2		
3		
4		
5	Sp3 – Decimals & Percentages	To know the concept of percentages To know how to write percentages as fractions and as decimals. To know how to find fraction, decimals and percentage equivalence
6	Sp2 – Percentages	To know how to convert between fractions to percentages To know how to find fraction, decimals and percentage equivalence To know how to find percentages of amounts To know how to find percentages missing values

Algebra		
YG	Unit	Key Learning
1		
2		
3		
4		
5		
6	Sp3 – Algebra	To know how to find and write algebraic rules – one and two step To know how to form algebraic expression To know how to use algebraic formulae To know how to form equations To know how to solve algebraic equations – one and two step To know how to find pairs of values

Ratio		
YG	Unit	Key Learning
1		
2		
3		
4		
5		
6	Sp6 – Ratio	To know the language of ratios and ratio symbol To know how to calculate ratios To know how to use and calculate scale factors To know how to solve problems involving ratio and proportion