MATHS CURRICULUM MAP YEAR 4

Based on White Rose Maths

Year 4	Main Topic area Taught:	Small steps:	National Curriculum Objective:	By the end of this topic, the children will know this vocabulary
Autumn	**<u>Number: Place Value</u>** **4 weeks**	• Roman numerals to 100 • Round to the nearest 10 • Round to the nearest 100 • Count in 1000s • 1000s,100s,10s and 1s • Partitioning • Number line to 10,000 • 1000 more or less • Compare numbers • Order numbers • Round to the nearest 1000 • Count in 25s • Negative numbers	• Count in multiples of 6, 7, 9, 25 and 1000 • Find 1000 more or less than a given number • Count backwards through zero to include negative numbers • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • Order and compare numbers beyond 1000 • Identify, represent and estimate numbers using different representations • 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 • Read Roman numerals to 100 (I to C) and know that over	units, ones, tens, hundreds, thousands, ten thousand, one-, two-, three- or four-digit number, numeral, place value, represents, exchange, greater than, greatest, more than, most, larger than, largest, least, fewest, smallest, one…ten…one hundred…one thousand more/less, compare, order, estimate, exact, exactly, approximate, approximately, round to the nearest ten, hundred, thousand, integer, most/least significant, partitioning, Roman numerals, positive, negative, above/below zero, minus, next, consecutive, sequence, continue, predict, pattern, rule, relationship, increase, decrease, inverse, measurement, measuring scale, thermometer, temperature, degrees °, Celsius

			time, the numeral system changed to include the concept of zero and place value.	
	Number: Addition and Subtraction **3 weeks**	• 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 than one exchange • Efficient subtraction • Estimate answers • Checking strategies	• 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	units, ones, tens, hundreds, thousands, one-, two-, three- or four-digit number, numeral, place value, represents, exchange, add, addition, more, plus, increase, sum, total, altogether, subtract, subtraction, take (away), minus, decrease, leave, how many are left/left over? difference between, equals, sign, is the same as, tens boundary, hundreds boundary, inverse, efficient, estimate, check
	Measurement: Length and Perimeter **1 week**	• Kilometers • Perimeter on a grid • Perimeter of a rectangle • Perimeter of rectilinear shapes	• Convert between different units of measure [for example, kilometre to metre; hour to minute] • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	measure, measurement, distance, size, compare, unit, standard unit, metric unit, measuring scale, division, guess, estimate, approximately, length, width, height, depth, breadth, edge, perimeter, rectilinear, rectangle, square, kilometre (km), metre (m), centimetre (cm), millimetre (mm), ruler, metre stick, tape measure
	Number: Multiplication and Division **3 weeks**	• Multiply by 10 • Multiply by 100 • Divide by 10 • Divide by 100 • Multiply by 1 and 0 • Divide by 1 and itself • Multiply and divide by 6 • 6 times table and division facts	• 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:	lots of, groups of, times, multiply, multiplication, multiplied by multiple of, product, repeated addition, array, row, column, double, halve, half, equal groups of, divide, division, divided by, divided into, remainder factor, quotient, divisible by, inverse, partition, ones, tens, hundreds, thousands, place, place

		• Multiply and divide by 9 • 9 times table and division facts • Multiply and divide by 7 • 7 times table and division facts	multiplying by 0 and 1; dividing by 1; multiplying together three numbers • 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. • Count in multiples of 6, 7, 9, 25 and 1000	value, digit
Spring	**<u>Number: Multiplication and Division</u>** **3 weeks**	• 11 and 12 times tables • Multiply 3 numbers • Factor pairs • Efficient multiplication • Written methods • Multiply 2-digits by 1-digit • Multiply 3-digit by 1-digit • Divide 2-digits by 1-digit (1) • Divide 2-digit by 1-digit (2) • Divide 3-digits by 1-digit • Correspondence problems	• 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 three numbers • Recognise and use factor pairs and commutativity in mental calculations • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	lots of, groups of, times, multiply, multiplication, multiplied by, multiple of, product, repeated addition, array, row, column, double, halve, half, equal groups of, divide, division, divided by, divided into, remainder factor, quotient, divisible by, dividend, divisor, inverse, partition, ones, tens, hundreds, thousands, place, place value, digit

			• 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.	
	Measurement: Area 1 week	• What is area? • Counting squares • Making shapes • Comparing area	• Find the area of rectilinear shapes by counting squares	area, covers, surface, boundary, array, rows, column, equal squares, rectilinear, compare
	Number: Fractions **4 weeks**	• What is a fraction? • Equivalent fractions (1) • Equivalent fractions (2) • Fractiosn grater than 1 • Count in fractions • Add 2 or more fractions • Subtract 2 fractions • Subtract from whole amounts • Calculate fractions of a quantity • Problem solving – calculate quantities.	• Recognise and show, using diagrams, families of common equivalent fractions • Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • 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	part, equal parts, fraction, one whole, half, quarter, eighth, third, sixth, fifth, tenth, twentieth, proportion, in every, for every, decimal, decimal fraction, decimal point, decimal place, units, ones, tenths, hundredths, numerator, denominator, equivalent, divided by
	Number: Decimals	• Recognise tenths and hundredths	• Recognise and write decimal	Tenths, hundredths, decimal, decimal point, decimal place, place

	3 weeks	• Tenths as decimals • Tenths on a place value grid • Tenths on a number line • Divide 1-digit by 10 • Divide 2-digits by 10 • Hundredths • Hundredths on a place value grid • Divide 1 or 2-digits by 100	equivalents of any number of tenths or hundredths • 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 • Solve simple measure and money problems involving fractions and decimals to two decimal places. • Convert between different units of measure [for example, kilometre to metre]	value, divide, dividing, division
Summer	**<u>Number: Decimals</u>** **2 weeks**	• Make a whole • Write decimals • Compare decimals • Order decimals • Round decimals • Halves and quarters	• Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ • 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 • 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.	Whole, decimal, decimal point, decimal place, compare, order, round, to the nearest, half, hlaves, quarter, quarters, digits, ones, tenths, hundredths, equivalent fractions
	<u>Measurement: Money</u>	• Pounds and pence • Ordering money	• Estimate, compare and calculate different measures,	Money, coin, pounds, pence, cost, price, estimate, order, more than,

	2 weeks	• Estimating money • Four operations	including money in pounds and pence • Solve simple measure and money problems involving fractions and decimals to two decimal places.	greater than, less than, decimal places, decimal points
	<u>Measurement: Time</u> **1 week**	• Hours, minutes and seconds • Years, months, weeks and days • Analogue to digital – 12 hour • Analogue to digital – 24 hour	• 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.	time, days of week: Monday, Tuesday…, months of the year: January, February…, seasons: spring, summer, autumn, winter, day, week, fortnight, month, year, leap year, decade, century, millennium, weekend, birthday, holiday, calendar, date, date of birth, morning, afternoon, evening, night
	<u>Statistics</u> **2 weeks**	• Interpret charts • Comparison, sum and difference • Introducing line graphs • Line graphs	• 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.	count, tally, sort, survey, questionnaire, data, graph, block graph, pictogram, represent, group, set, list, chart, bar chart, tally chart, table, frequency table, time graph, line graph, label, title, axis, axes, scale, diagram, most popular, most common, least popular, least common, discrete data, continuous data
	<u>Geometry: Properties of Shape</u> **3 weeks**	• Identify angles • Compare and order angles • Triangles • Quadrilaterals • Lines of symmetry	• Compare and classify geometric shapes, including quadrilaterals and triangles**,** based on their properties and sizes • Identify acute and obtuse angles and compare and order angles up to two right angles	line, curved, straight, side, vertex, sort, regular, irregular, 2-D, two-dimensional, circle, circular, semi-circle, triangle, triangular, equilateral triangle, isosceles triangle, square, rectangle, rectangular, oblong, pentagon, pentagonal, hexagon, hexagonal, heptagon, octagon, octagonal, polygon, quadrilateral, lines of symmetry, fold, mirror line, reflection, reflect, horizontal,

		• Complete a symmetric figure	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.	vertical, angle, acute angle, obtuse angle, degree, perpendicular, parallel, Venn diagram, Carroll diagram, classify
	<u>Geometry: Position and Direction</u> **1 week**	• Describe position • Draw on a grid • Move on a grid • Describe a movement on a grid	• 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.	coordinates, diagonal, quadrant, whole turn, half turn, quarter turn, rotate, angle, right angle, acute, obtuse, degree