

Maths Curriculum Map

KS2			
	Autumn	Spring	Summer
Curriculum Theme	Place Value, Addition, Subtraction, Statistics, Shape - Space and Measure	Multiplication, Division, Statistics, Fractions	Multiplication, Division, Time, Place Value (decimals), Measures, Shape, space and Measure
Year 3	<p>Place Value</p> <ul style="list-style-type: none"> count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number compare and order numbers up to 1000 identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words recognise the place value of each digit in a three-digit number (hundreds, tens, ones) solve number problems and practical problems involving these ideas. <p>Addition</p> <ul style="list-style-type: none"> add numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s add numbers with up to 3 digits, using formal written methods of columnar addition solve problems, including missing number problems, using number facts, place value, and more complex addition. 	<p>Shape</p> <ul style="list-style-type: none"> 2-D shape: properties and drawing Perimeter <p>Multiplication</p> <p>count from 0 in multiples of 4, 8, 50 and 100 (links to number and place value)</p> <ul style="list-style-type: none"> recall and use multiplication facts for the 3,4 and 8 multiplication tables write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods solve problems, including missing number problems, involving multiplication, including positive integer scaling problems and correspondence problems in with n objects are connected to m objects distributive law <p>Division</p> <p>write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers</p>	<p>Division</p> <ul style="list-style-type: none"> write and calculate mathematical statements for 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 solve problems, including missing number problems, involving division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects <p>Measures – Time</p> <ul style="list-style-type: none"> compare durations of events, for example to calculate the time taken by particular events or tasks estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling 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 estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as

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<p>Subtraction</p> <ul style="list-style-type: none"> • subtract numbers mentally, including: • a three-digit number and 1s • a three-digit number and 10s • a three-digit number and 100s • subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction • solve problems, including missing number problems, using number facts, place value, and more complex subtraction <p>Problem Solving</p> <ul style="list-style-type: none"> • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction <p>Statistics</p> <ul style="list-style-type: none"> • interpret and present data using bar charts, pictograms and tables • solve one-step and twostep questions [e.g. ‘How many more?’ and ‘How many fewer?’] using information presented in scaled bar charts and pictograms and tables <p>Shape</p> <ul style="list-style-type: none"> • draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3- 	<ul style="list-style-type: none"> • recall and use division facts for the 3, 4 and 8 multiplication tables <p>Statistics</p> <ul style="list-style-type: none"> • interpret and present data using bar charts, pictograms and tables <p>Fractions</p> <p>count up and down in tenths</p> <p>recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</p> <p>recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10.</p> <p>recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</p> <p>compare and order unit fractions, and fractions with the same denominators</p> <p>recognise and show, using diagrams, equivalent fractions with small denominators</p> <p>add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)</p>	<p>a.m./p.m., morning, afternoon, noon and midnight</p> <ul style="list-style-type: none"> • know the number of seconds in a minute and the number of days in each month, year and leap year <p>Problem Solving</p> <ul style="list-style-type: none"> • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction <p>Measures</p> <p>measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes</p> <p>Shape</p> <p>draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</p>
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	<p>D shapes in different orientations and describe them</p> <p>Angles</p> <ul style="list-style-type: none">• 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		
	<p>Place Value, Addition, Subtraction, Multiplication, Shape, space and measure</p>	<p>Shape, space and measure, Fractions, Multiplication and Division</p>	<p>Shape, space and measure, Statistics,</p>

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Year 4	<p>Place Value</p> <ul style="list-style-type: none"> • count backwards through zero to include negative numbers • count in multiples of 6, 7, 9, 25 and 1000 • find 1000 more or less than a given number • order and compare numbers beyond 1000 compare numbers with the same number of decimal places up to two decimal places • 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. • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • round any number to the nearest 10, 100 or 1 000 round decimals with one decimal place to the nearest whole number (from Fractions) solve number and practical problems that involve all of the above and with increasingly large positive numbers <p>Addition</p> <ul style="list-style-type: none"> • Add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate • Estimate and use inverse operations to check answers to a calculation 	<p>Shape, space and measure</p> <ul style="list-style-type: none"> • 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 <p>Fractions, percentage and decimals</p> <ul style="list-style-type: none"> • compare numbers with the same number of decimal places up to two decimal places • round decimals with one decimal place to the nearest whole number • 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 $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ • 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 	<p>Shape, space and measure</p> <p>read, write and convert time between analogue and digital 12 and 24-hour clocks</p> <p>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</p> <p>solve problems involving converting between units of time</p> <p>compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</p> <p>identify acute and obtuse angles and compare and order angles up to two right angles by size</p> <p>find the area of rectilinear shapes by counting squares</p> <p>Statistics</p> <p>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</p> <p>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p>
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	<ul style="list-style-type: none"> • Solve addition two-step problems in contexts, deciding which operations and methods to use and why <p>Subtraction</p> <ul style="list-style-type: none"> • subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve subtraction two-step problems in contexts, deciding which operations and methods to use and why <p>Multiplication</p> <ul style="list-style-type: none"> • recall multiplication facts for multiplication tables up to 12 x 12 • use place value, known and derived facts to multiply mentally, including: multiplying by 0 and 1; multiplying together 3 numbers • recognise and use factor pairs and commutativity in mental calculations • solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects • find the effect of multiplying a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths 	<p>hundredths</p> <ul style="list-style-type: none"> • 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 • solve simple measure and money problems involving fractions and decimals to two decimal places. • count up and down in hundredths • recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten • add and subtract fractions with the same denominator <p>Multiplication</p> <ul style="list-style-type: none"> • multiply two-digit and three-digit numbers by a one-digit number using formal written layout <p>Division</p> <ul style="list-style-type: none"> • divide two-digit and three-digit numbers by a one-digit number using formal written layout 	
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	<p>Division</p> <ul style="list-style-type: none">• recall division facts for multiplication tables up to 12 x 12• use place value, known and derived facts to divide mentally• recognise and use factor pairs and commutativity in mental calculations• solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects• 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 <p>Measure</p> <ul style="list-style-type: none">• convert between different units of measure (e.g. kilometre to metre; hour to minute) <p>Statistics</p> <ul style="list-style-type: none">• 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		
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	<p>bar charts, pictograms, tables and other graphs.</p> <p>Shape, space and measure (perimeter)</p> <ul style="list-style-type: none"> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres 		
	Place Value, Multiplication, Addition, Subtraction, Fractions	Shape, Space and measure, FDP, Problem Solving, Multiplication, Division	Shape, space and measure, Statistics
Year 5	<p>Place Value</p> <ul style="list-style-type: none"> interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero count forwards or backwards in steps of powers of 10 for any given number up to 1000 000 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 1 000 000 and determine the value of each digit (appears also in Comparing Numbers) read Roman numerals to 1 000 (M) and recognise years written in Roman numerals. read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (from Fractions) 	<p>Fractions</p> <ul style="list-style-type: none"> recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence) compare and order fractions whose denominators are all multiples of the same number identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths read and write decimal numbers as fractions (e.g. $0.71 = 71 / 100$) recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents 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 as a decimal fraction 	<p>Geometry</p> <ul style="list-style-type: none"> Reflection and translation Perimeter Estimate, compare, measure and draw angles Identify unknown angles Distinguish between regular and irregular polygons Use properties of rectangles <p>Multiplication and division</p> <ul style="list-style-type: none"> Formal methods for division and multiplication in increasingly complex problems Strategies for multiplication and division (mental and written) Solving problems involving scaling by simple fractions and rates <p>Measurement</p> <ul style="list-style-type: none"> Conversion of imperial and metric units of measure Reading timetables and calculating with time <p>Fractions</p>

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	<ul style="list-style-type: none"> • round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 • round decimals with two decimal places to the nearest whole number and to one decimal place (from Fractions) • solve number problems and practical problems that involve all of the above <p>Addition and subtraction</p> <ul style="list-style-type: none"> • add and subtract numbers mentally with increasingly large numbers • add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <p>Multiplication and division</p> <ul style="list-style-type: none"> • count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (links to number and place value) 	<ul style="list-style-type: none"> • add and subtract fractions with the same denominator and multiples of the same number • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 1\ 1/5$) <p>All Four Operations</p> <ul style="list-style-type: none"> • 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 <p>Measure</p> <ul style="list-style-type: none"> • convert units of measure: decimal and fraction equivalences of metric measure; convert from a larger unit to a smaller unit; convert a from a smaller unit to a larger unit; scaling measures • Area: develop strategies to estimate the area of irregular shapes; estimate area using standard units; calculate and compare the area of rectangles; 	<ul style="list-style-type: none"> • Fractions, decimals and percentages problem solving <p>Number and Statistics</p> <ul style="list-style-type: none"> • solve comparison, sum and difference problems using information in a line graph • interpreting and evaluating information presented in charts and tables
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	<ul style="list-style-type: none">• multiply and divide numbers mentally drawing upon known facts multiply and divide whole numbers and those involving decimals by 10, 100 and 1000• 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• 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• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.• know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers• establish whether a number up to 100 is prime and recall prime numbers up to 19• recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	<p>find unknown measures when calculating area; work backwards to calculate measures from a given area</p> <ul style="list-style-type: none">• Volume and capacity: square numbers and area; build cube numbers; investigate the volume of cuboids; estimate volume and capacity <p>Percentages</p> <ul style="list-style-type: none">• understand that per cent relates to the number of parts per hundred; express parts per hundred as fractions, decimals and percentages; use scaling to identify percentages; identify common equivalent fractions, decimals and percentages; calculate percentages by finding fractions of; develop strategies to calculate percentages• Convert between fractions, decimals and percentages and problem solve <p>Shape</p> <ul style="list-style-type: none">• Define cuboids and cubes• Understand nets• Draw nets using given measurements	
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	Place Value, Addition/Subtraction, Multiplication/Division, Fractions	Fractions, Addition/Subtraction, Multiplication/Division, Measurement, Geometry	Geometry, Multiplication/Division, Measurement, FDP, Addition/Subtraction, Number and Statistics
Year 6	<p>Place Value</p> <ul style="list-style-type: none"> • use negative numbers in context, and calculate intervals across zero • read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) • read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value) • read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) • identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places (from Fractions) • round any whole number to a required degree of accuracy • solve problems which require answers to be rounded to specified degrees of accuracy (from Fractions) • solve number and practical problems that involve all of the above <p>Multiplication and Division</p>	<p>Algebra</p> <ul style="list-style-type: none"> • Order of operations <p>Multiplication, division, and measurement</p> <ul style="list-style-type: none"> • Formal written method for long division • Exploring relationships between perimeter and area • Volume <p>Geometry</p> <ul style="list-style-type: none"> • Recognise and find angles • Reflection and translation <p>Fractions (including decimals and percentages)</p> <ul style="list-style-type: none"> • Multiplying fractions • Dividing • Fractions, decimals and percentages problem-solving <p>Ratio and proportion</p> <ul style="list-style-type: none"> • Ratio and proportion <p>Statistics</p> <ul style="list-style-type: none"> • line graphs and pie charts 	<p>Algebra and statistics</p> <ul style="list-style-type: none"> • calculate and interpret mean average • Application of known facts and calculation strategies <p>consolidate key learning pre SATs Post SATs: construct pie charts, Statistical representations, Further algebra, Financial maths and enterprise</p>

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	<ul style="list-style-type: none">• Reinforcing previous Times tables facts• perform mental calculations, including with mixed operations and large numbers• 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 short division where appropriate for the context 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• identify common factors, common multiples and prime numbers• use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)• calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm³) and cubic metres (m³),		
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	<p>and extending to other units such as mm³ and km³</p> <ul style="list-style-type: none">• use their knowledge of the order of operations to carry out calculations involving the four operations• use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy• solve problems involving addition, subtraction, multiplication and division solve problems involving similar shapes where the scale factor is known or can be found (copied from Ratio and Proportion) <p>Addition and Subtraction</p> <ul style="list-style-type: none">• perform mental calculations, including with mixed operations and large numbers• use their knowledge of the order of operations to carry out calculations involving the four operations• use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.• solve addition and subtraction multi-step problems in contexts, deciding		
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	<p>which operations and methods to use and why</p> <ul style="list-style-type: none">• Solve problems involving addition, subtraction, multiplication and division <p>Fractions, Decimals and Percentages</p> <ul style="list-style-type: none">• compare and order fractions, including fractions >1• identify the value of each digit in numbers given to three decimal places• solve problems which require answers to be rounded to specified degrees of accuracy• use common factors to simplify fractions; use common multiples to express fractions in the same denomination• associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)• recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.• add and subtract fractions with different denominators and mixed		
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	<p>numbers, using the concept of equivalent fractions</p> <ul style="list-style-type: none">• multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1/4 \times 1/2 = 1/8$)• multiply one-digit numbers with up to two decimal places by whole numbers• divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$)• multiply one-digit numbers with up to two decimal places by whole numbers• multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places• identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places• associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $3/8$)• use written division methods in cases where the answer has up to two decimal places		
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	<p>Shape, space and measure</p> <ul style="list-style-type: none">• recognise, describe and build simple 3-D shapes, including making nets• illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius• draw 2-D shapes using given dimensions and angles• recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties)		
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