

## Subject Overview 2022-23

**Subject:** Maths

Year 7	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
<b>Autumn 1</b>	<b>Baseline</b>	<b>Number and place value</b> – read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.	<b>Number and place value</b> – interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	<b>Addition and subtraction</b> – add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	<b>Multiplication and division</b> – recognise and use factor pairs and commutativity in mental calculations	<b>Multiplication and division</b> – recall multiplication and division facts for multiplication tables up to $12 \times 12$
<b>Autumn 2</b>	<b>Geometry - Properties of shape</b> identify acute and obtuse angles and compare and order angles up to 2 right angles by size	<b>Geometry – position and direction</b> – describe positions on a 2-D grid as coordinates in the first quadrant	<b>Measurement</b> – convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]	<b>Fractions and decimals</b> – Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.	<b>Fraction and decimals</b> – recognise and write decimal equivalents of any number of tenths or hundreds	<b>Statistics</b> – interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
<b>Spring 1</b>	<b>Measurement</b> - measure and calculate the perimeter and area of a rectilinear figures.	<b>Number and place value</b> - round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	<b>Addition and subtraction</b> – estimate and use inverse operations to check answers to a calculation including worded problems.	<b>Multiplication and division</b> – solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit,	<b>Multiplication and division</b> – use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1;	<b>Knowledge and intervention check</b>

				integer scaling problems and harder correspondence problems such as n objects are connected to m objects	multiplying together 3 numbers	
<b>Spring 2</b>	<b>Geometry -</b> Properties of shape compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	<b>Measurement –</b> solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days	<b>Fractions and decimals -</b> add and subtract fractions with the same denominator	<b>Fractions and decimals –</b> 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	<b>Statistics –</b> solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	<b>Knowledge and intervention check</b>
<b>Summer 1</b>	<b>Addition and subtraction –</b> Practise mental methods with increasingly large numbers to aid fluency (non-statutory)	<b>Multiplication and division –</b> multiply two-digit and three-digit numbers by a one-digit number using formal written layout	<b>Multiplication and division –</b> Pupils practise to become fluent in the formal written method of short multiplication and short division with exact answers (non statutory)	<b>Geometry - Properties of shape -</b> identify lines of symmetry in 2-D shapes presented in different orientations	<b>Geometry – position and direction -</b> plot specified points and draw sides to complete a given polygon	<b>Knowledge and intervention check</b>
<b>Summer 2</b>	<b>Fractions and decimals –</b> compare numbers with the same number of decimal places up to 2 decimal places.	<b>Fractions and decimals –</b> solve simple measure and money problems involving fractions and decimals to 2 decimal places	<b>Statistics –</b> complete, read and interpret information in tables, including timetables	<b>Number and place value -</b> solve number and practical problems with increasingly large positive numbers and roman numerals	<b>Addition and subtraction –</b> solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	<b>Multiplication and division -</b> multiply and divide numbers mentally drawing upon known facts

<b>Year 8</b>	<b>Topic 1</b>	<b>Topic 2</b>	<b>Topic 3</b>	<b>Topic 4</b>	<b>Topic 5</b>	<b>Topic 6</b>
<b>Autumn 1</b>	<b>Baseline</b>	<b>Number and place value</b> – read, write, order and compare numbers up to 10,000,000 and determine the value of each digit	<b>Number and place value</b> – use negative numbers in context, and calculate intervals across 0.	<b>Addition and subtraction</b> – f add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	<b>Multiplication and division</b> – identify common factors, common multiples and prime numbers	<b>Multiplication and division</b> – perform mental calculations, including with mixed operations and large numbers .
<b>Autumn 2</b>	<b>Geometry - Properties of shape</b> - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	<b>Geometry – position and direction</b> – describe positions on the full coordinate grid (all 4 quadrants)	<b>Measurement</b> – 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 decimal places	<b>Fractions and decimals</b> - 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, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$ ]	<b>Fraction and decimals</b> – round decimals with 2 decimal places to the nearest whole number and to 1 decimal place	<b>Statistics</b> – interpret and construct pie charts and line graphs and use these to solve problems
<b>Spring 1</b>	<b>Measurement</b> - calculate the area of parallelograms and triangles	<b>Number and place value</b> – round any whole number to a required degree of accuracy	<b>Addition and subtraction</b> - add and subtract numbers mentally with increasingly large numbers	<b>Multiplication and division</b> – know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers	<b>Multiplication and division</b> – Multiply and divide multi-digit numbers up to 4 digits by a two-digit whole number	<b>Knowledge and intervention check</b>

<b>Spring 2</b>	<b>Geometry -</b> Properties of shape compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	<b>Measurement -</b> use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	<b>Fractions and decimals –</b> add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions -taught under add/sub	<b>Fractions &amp; decimals</b> - read, write, order and compare numbers with up to 3 decimal places	<b>Statistics –</b> complete, read and interpret information in tables, including timetables	<b>Knowledge and intervention check</b>
<b>Summer 1</b>	<b>Addition and subtraction –</b> solve problems involving addition, subtraction, multiplication and division	<b>Multiplication and division –</b> multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	<b>Multiplication and division –</b> 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	<b>Geometry -Properties of shape –</b> use the properties of rectangles to deduce related facts and find missing lengths and angles	<b>Geometry – properties of shape</b> distinguish between regular and irregular polygons based on reasoning about equal sides and angles	<b>Knowledge and intervention check</b>
<b>Summer 2</b>	<b>Fractions and decimals –</b> multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	<b>Fractions and decimals and percentages –</b> recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction	<b>Statistics -</b> calculate and interpret the mean as an average	<b>Number and place value -</b> solve number and practical problems with increasingly large positive numbers and roman numerals	<b>Addition and subtraction -</b> use their knowledge of the order of operations to carry out calculations involving the 4 operations	<b>Multiplication and division –</b> use their knowledge of the order of operations to carry out calculations involving the 4 operations

<b>Year 9</b>	<b>Topic 1</b>	<b>Topic 2</b>	<b>Topic 3</b>	<b>Topic 4</b>	<b>Topic 5</b>	<b>Topic 6</b>
<b>Autumn 1</b>	<b>Baseline</b>	<b>Number and place value</b> – use place value for decimals, measure and integers of any size.	<b>Number and place value</b> – interpret and compare positive and negative numbers in standard form.	<b>Addition and subtraction</b> – multi step problems involving decimals and fractions.	<b>Multiplication and division</b> – use the concepts and vocabulary of prime numbers, factors (or divisors) and multiples.	<b>Multiplication and division</b> – mental calculations
<b>Autumn 2</b>	<b>Geometry -Properties of shape</b> - apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles.	<b>Geometry – position and direction</b> – describe, sketch and draw using conventional terms and notations.	<b>Measurement</b> – change freely between related standard units [for example time, length, area, volume/capacity, mass]	<b>Percentages</b> - solve problems involving percentage change.	<b>Fraction and decimals</b> - work interchangeably with terminating decimals and their corresponding fractions	<b>Statistics</b> – construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data.
<b>Spring 1</b>	<b>Measurement</b> – derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders)	<b>Number and place value</b> - round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures]	<b>Addition and subtraction</b> – use the four operations, including formal written methods, applied to integers,	<b>Multiplication and division</b> - use the four operations, including formal written methods, applied to decimals	<b>Multiplication and division</b> – use the four operations, including formal written methods, applied to fractions.	<b>Algebra</b> – Use and interpret algebraic notation / understand the language
<b>Spring 2</b>	<b>Geometry -Properties of shape</b> - identify and construct congruent triangles, and	<b>Measurement</b> – solving worded problems (exam style questions)	<b>Fractions and decimals</b> – multiply fractions in simple form	<b>Fractions and decimals</b> - multiply and divide with algebraic expressions.	<b>Statistics</b> – mean, mode, median and range	<b>Ratio, proportion, rates of change</b> – understand relationships

	construct similar shapes by enlargement, with and without coordinate grids					between numbers, ratio and fractions.
<b>Summer 1</b>	<b>Addition and subtraction</b> - use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative.	<b>Multiplication and division</b> - use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative.	<b>Probability</b> - record, describe and analyse the frequency of outcomes.	<b>Geometry - Properties of shape</b> – circles, radius and diameter	<b>Geometry – position and direction</b> – identify properties of, and describe the results of, translations, rotations and reflections applied to given figures	<b>Algebra</b> - Simplify and manipulate expressions
<b>Summer 2</b>	<b>Fractions and decimals</b> – solving problems (exam style questions)	<b>Ratio, proportion, rates of change</b> - use compound units such as speed, unit pricing and density to solve problems.	<b>Statistics</b> - describe simple mathematical relationships between two variables,	<b>Revision</b> - targeted intervention for students.	<b>Revision</b> - targeted intervention for students.	<b>Sit entry level or function skill exam.</b>

<b>Year 10</b>	<b>Topic 1</b>	<b>Topic 2</b>	<b>Topic 3</b>	<b>Topic 4</b>	<b>Topic 5</b>	<b>Topic 6</b>
<b>Autumn 1</b>	Baseline & Number skills	Number and re-clarification of GCSE course	BIDMAS & The Four Operations ( + - x ÷ )	Mean, Median, Mode & Range + Estimating & Rounding.	Angles (main Focus on Triangles and Quad')	2D shapes Perimeter & Area
<b>Autumn 2</b>	Circumference and Area of a Circle	Scatter Graphs, positive and negative correlation	3D Shapes Volume & Surface area, (Main focus on simple shapes)	Fractions, Decimals, Percentages	Fractions, Decimals, Percentages	Basic Algebra & Equations
<b>Spring 1</b>	More advanced Algebra & Equations	Tables, Graphs & Charts	Ratio & Proportion	Basic Probability	3D shapes, different types + re-look at Perimeter, Area and Volume	Pythagoras Theorem + must know 3,4,5 up to 12,16,20
<b>Spring 2</b>	Real life graphs, tables & charts.	Speed, Distance & Time	Map and Scale Drawings + Bearings	Metric & Imperial measurements & conversions	Transformation – 4 operations.	Further Algebra and Equations.
<b>Summer 1</b>	GCSE Past paper work	GCSE Past Paper work using a calculator	Mean, Median, Mode & Range + Estimating & Rounding.	Angles (main Focus on Triangles and Quad')	2D shapes Perimeter & Area	Circumference and Area of a Circle & Volume of 3D Shapes
<b>Summer 2</b>	Fractions, Decimals, Percentages	Tables, Graphs & Charts	GCSE Past paper work	GCSE Past Paper work using a calculator	Further Probability	Ratio & Proportion

Year 11	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
<b>Autumn 1</b>	Baseline & Number skills	Number and re-clarification of GCSE course	BIDMAS & The Four Operations ( + - x ÷ )	Mean, Median, Mode & Range + Estimating & Rounding.	Angles (main Focus on Triangles and Quad')	2D shapes Perimeter & Area
<b>Autumn 2</b>	Circumference and Area of a Circle	Scatter Graphs, positive and negative correlation	3D Shapes Volume & Surface area, (Main focus on simple shapes)	Fractions, Decimals, Percentages	Fractions, Decimals, Percentages	Basic Algebra & Equations
<b>Spring 1</b>	More advanced Algebra & Equations	Tables, Graphs & Charts	Ratio & Proportion	Basic Probability	3D shapes, different types + re-look at Perimeter, Area and Volume	Pythagoras Theorem + must know 3,4,5 up to 12,16,20
<b>Spring 2</b>	Real life graphs, tables & charts.	Speed, Distance & Time	Map and Scale Drawings + Bearings	Metric & Imperial measurements & conversions	GCSE Past paper work	GCSE Past paper work
<b>Summer 1</b>	GCSE Past Paper work using a calculator	GCSE Past Paper work using a calculator	Student Guided Topic Revision / GCSE Past paper work	Student Guided Topic Revision / GCSE Past paper work	Student Guided Topic Revision / GCSE Past paper work	Student Guided Topic Revision / GCSE Past paper work
<b>Summer 2</b>	Student Guided Topic Revision / GCSE Past paper work	Student Guided Topic Revision / GCSE Past paper work	Exams			

