



# Mathematics Curriculum Plan Overview

## Year 11 GCSE plan overview

Term	Topic	Learning	How can parents' best support	Key Vocab
Autumn 1	Number laws	<p><b>Number laws</b> - Negative numbers, index rules, negative indices, standard form, BIDMAS, describing factors and multiples, highest common factor, lowest common multiple, using Venn diagrams to find HCF LCM</p> <p><b>Averages</b> - Mean, median, mode, range. Averages from frequency tables.</p>	<p>Continued practice with times tables supports work on fractions and ratio.</p> <p>Look at data in the media and how it is used/misused.</p>	<p>Negative, positive, indices, squared, cubed factor, multiple, HCF, LCM, venn diagram, chart, table, bar chart, pictogram, multiplication, division, addition, standard form, ordinary form, brackets, subtraction, denominator, numerator, equivalent, mixed number, improper fraction</p>
	Averages			
	Inequalities			
	Ratio and proportion			
<b>Assessment: Basic Skills assessment</b>				
Autumn 2	<p>Basic Fractions</p> <p>Basic Algebra</p> <p>Sequences</p> <p>Rounding</p> <p>Coordinates</p>	<p><b>Fractions</b>- 4 operations with fractions, simplifying fractions, ordering fractions</p> <p><b>Algebra</b> - Generating sequences given a rule. continuing a numeric or pictorial sequence given a rule. Linear sequences - term to term and position to term rules. Fibonacci type sequences. Simplifying expressions. Solving algebraic equations</p> <p>Sequences- Finding the common rule and the nth term of a sequence.</p> <p><b>Rounding</b> - To nearest 10, 100, 1000. Round to 1 and 2 decimal places, whole numbers, given significant places.</p> <p><b>Coordinates</b> - 4 quadrant grid reading.</p>	<p>Practice finding ways of dividing 2 numbers by a common number until they cannot be divided anymore (e.g 48/72 divided by 2 until you get to <math>\frac{2}{3}</math>), online games and puzzles</p> <p>Encouragement to count in sequences, to identify the counting to a counting sequence. Attempt puzzle games trying to find patterns</p> <p>Rounding amounts of money, prices, etc. to the nearest pound, ten pound, hundred pound, thousand etc.</p> <p>Practice reading coordinates on a grid.</p>	<p>Algebraic, brackets, Subtraction, expression, equation, term, inequality, simplify, solve, coordinates, axis, bearings, measure, numerator, denominator,</p>
<b>Assessment: Self assessment and topic tests (Mock Exams November)</b>				
Spring 1	<p>Fractions/Decimals/percentages</p> <p>Graphs</p> <p>Shape and Measures</p>	<p><b>Number</b> - percentages, basic percentages as proportion of 100, converting percentages to decimals</p> <p><b>Graphs</b>- Plotting graphs using a table, plotting graphs from equations, identifying graphs, correlation of graphs,.</p> <p><b>Geometry and Measures</b> - area and perimeter of rectangles and squares and compound shapes made with rectilinear shapes, area of quadrilaterals including trapeziums and parallelograms,</p>	<p>Exposure to working with decimals. e.g. shopping item prices.</p> <p>Discussing percentages out of 100. Increasing and decreasing by a percentage.</p> <p>Graphs- Talk about trends in real world and how they might look on a graph (e.g</p>	<p>Decimal, place value, hundredth, thousandth, percentage, percentage change, percentage increase, percentage decrease, proportion, adding, subtracting, multiplying and dividing, convert, area, perimeter, compound shape, metre, centimetre, millimetre, kilometre, axis, correlation, plot, linear, quadratic</p>

		area of triangles and polygons made from triangles	<p>eating more cake will have positive correlation with weight gained, People walking/cycling to work will have negative correlation with traffic)</p> <p>Calculating the area/perimeter of places found around the home</p> <p>Use different measurements in real life settings e.g. cooking</p>	
<b>Assessment: <u>Self assessment and topic tests</u></b>				
<b>Spring 2</b>	<p><b>Volume</b></p> <p><b>Compound Measures</b></p> <p><b>Basic Probability</b></p>	<p><b>Volume- Find the volume of a 3D shapes. Volume of a cube, cylinder, cuboid, triangular prism and other prisms. Find volume of prism by area multiplied by height</b></p> <p><b>Compound measures-</b> Finding the speed, distance or time of a journey using the formula. Find the Density, Mass, Volume of an object using the formula.</p> <p><b>Probability</b> - calculate the probability of single events happening using fractions / decimals / percentages, calculate the probability of something "Not" happening, use AND and OR rule with probability in treed diagrams, understand mutually exclusive and independent event</p>	<p>Name and point out the names of different shapes. Find the Area of different surfaces in the house.</p> <p>Talk about the speed of the car. Ask pupils to time how long a journey took when out for a walk/drive.</p> <p>Discussing the chance of certain events happening. Weather forecasts for example. There is a 35% chance of rain today so therefore there must be 65% it won't rain. Play board and card games and talk about the probability of drawing a card or rolling a number,</p>	<p>Circumference, diameter, radius, arc, sector, segment, ratio, proportion, share, difference, simplify, probability, and, or, chance, impossible, unlikely, even, likely, certain, percentage, decimal, fraction, relative frequency</p>
<b>Assessment: <u>Self assessment and topic tests</u></b>				
<b>Summer 1</b>	<p><b>Exam Prep and technique</b></p> <p><b>Mathematical Rules</b></p> <p><b>Algebra</b></p> <p><b>Geometry</b></p>	<p><b>Exam Prep-</b> What is the question asking, do you know any words, where can I find marks, showing working out, how to use the exam calculator.</p> <p><b>Algebra</b> - solve 1 and 2 step linear equations, solve equations with unknowns on both sides, solve equations involving brackets, solve quadratic equations by factorising, using the formula or completing the square.</p>	<p>Look at past papers and identify areas for revision</p> <p>Practice questions with or without a calculator</p> <p>GCSEpod MathsGenie for videos and worksheets <a href="https://www.mathsgenie.co.uk/gcse.html">https://www.mathsgenie.co.uk/gcse.html</a></p> <p>Visit BBC Bitesize and review content for AQA GCSE Maths <a href="https://www.bbc.co.uk/bitesize/examspecs/z8sg6fr">https://www.bbc.co.uk/bitesize/examspecs/z8sg6fr</a></p>	<p>Equation, Inverse, Solve, Find the solution to, Graph, Linear, Vertices, Edges, Faces, Plan, Elevation, Net, Scale, Diagram, Ratio, Measure, Enlargement, Scale Factor</p>

		<p><b>Geometry and Measures</b> - Pythagoras Theorems, angles in a triangle,</p> <p><b>Geometry and Measures</b> - 2D representation of 3D shapes - plans and views on drawings calculating volume of 3D shapes, nets and volume and surface area - including prisms</p>		
<b>Assessment: <u>Self assessment and topic tests (Paper 1 examination May)</u></b>				
<b>Summer 2</b>	<p><b>Exam Prep</b></p> <p><b>Equations 2D</b> <b>Representations of 3D shapes</b></p> <p><b>Hot Spot</b> <b>Using a calculator</b></p>	<p><b>Geometry and Measures</b> - 2D representation of 3D shapes. Plans and views on drawings, calculating volume of 3D shapes, nets and volume and surface area - including prisms</p> <p>Exam revision - Practice questions from calculator papers</p>	<p>Use of a scientific calculator.</p> <p>Answering wordy multi-step maths questions.</p>	<p>Vertices, Edges, Faces, Plan, Elevation, Net</p>
<b>Assessment: <u>(Paper 2 &amp; 3 examinations May/June)</u></b>				