Mathematics Curriculum Plan Overview

Year 9 plan overview				
Term	**Topic**	**Learning**	**How can parents' best support**	**Key Vocab**
Autumn 1	**Collecting and representing data** **Basic number** **Factors and multiples** **Basic Fractions** **Hot spot Times tables**	**Statistics** - Bar charts and pictograms including dual bar charts. **Number** - 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 , Fractions - simplifying fractions, equivalent fractions, 4 operations with fractions	Continued practice with times tables supports work on fractions and ratio. Look at data in the media and how it is used/misused. When cutting food (e.g pizza/cake) ask children what fraction of the food they are getting Practice simple addition, subtraction, multiplication and division questions. https://www.mathgames.com/ has resources and games on every topic	Negative, positive, indices, squared, cubed factor, multiple, HCF, LCM, venn diagram, chart, table, bar chart, pictogram, multiplication, division, addition, standard form, Brackets, Subtraction
Assessment:	<u>**Entry Level Assessments**</u>			
Autumn 2	**Basic Algebra Sequences Basic decimals Rounding Angles**	**Algebra** - collecting terms and simplifying expressions, **Algebra Generating s**equences given a rule. continuing a numeric or pictorial sequence given a rule. Linear sequences - term to term and position to term rules. Quadratic sequences - generating using algebra. Fibonacci type sequences. **Number** -, 4 operations with fractions Decimals - Four operations, rounding to decimal places, rounding to significant figures, using rounding to estimate **Geometry and measures** - scale drawings,	Any change from going to the shops ask them to write it in decimals. Practice rounding to the nearest 10, 100 and significant figure. Play rounding games online https://mathsframe.co.uk/en/resources/resource/573/Birds-v-Robots-Maths-Battle Investigating angles, searching for right angles, acute, obtuse and reflex angles in everyday locations.	simplify, equivalent, addition, subtraction, division, multiplication, decimal, rounding, significant figures, estimate, scale, Expressions, equations, term, inequality, formula, rearrange

		constructing triangles, scale drawings, bearings Angles - angle rules in triangles,	https://www.mathgames.com/ has resources and games on every topic	
Assessment :				
Spring 1	**Basic Algebra** **Angles** **Basic percentages** **Introduction to area and perimeter** **Hot Spot Measures**	**Algebra-** Simplify expressions, form expressions, solve 1 step equations, factorise, expand **Number** - percentages, basic percentages as proportion of 100, converting percentages to decimals **Geometry and Measures** - Measure angles, angle names, angles in a triangle, angles in parallel lines, angles in a quadrilateral area and perimeter of rectangles and squares and compound shapes made with rectilinear shapes, area of quadrilaterals including trapeziums and parallelograms, area of triangles and polygons made from triangles	Exposure to working with decimals. e.g. shopping item prices. Discussing % out of 100. Increasing and decreasing by a % Calculating the area/perimeter of places found around the home Create patterns with match sticks or do play puzzle apps on phone Use different measurements in real life settings e.g. cooking https://www.mathgames.com/ has resources and games on every topic	percentage, percentage change, percentage increase, percentage decrease, area, perimeter, compound shapes, quadrilateral, trapezium, parallelogram, triangle, formula, polygon, circumference, pi, radius, diametre convert, area, perimeter, compound shape, metre, centimetre, millimetre, kilometre,
Assessment :	**Class Tests**			
Spring 2	**Sequences** **Ratio and Proportion** **Basic Probability** **Hot Spot Time**	**Sequences-** Finding missing term, completing sequences, find the nth term, Find the a term using nth term, Fibonacci sequences **Ratio and proportion** - simplifying ratios finding similar ratios, share in a given ratio, use unitary method for calculating ratios **Probability** - 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 tree diagrams, understand mutually exclusive and independent event	Practice continuing a pattern. 11, 22, 33, 44… 12, 24, 36… 1.25m, 1.5m, 1.75m, 2m… Practice rounding to the nearest 10. Play rounding games online https://mathsframe.co.uk/en/resources/resource Investigate Golden Ratio and sequences in nature. Play board games that rely on dice rolls (Catan etc) where probability can affect the game Practice timetables and practice reading digital and analogues times	sequences, patterns, fibonacci, geometric, arithmetic, ratio, proportion, share, difference, simplify, probability, and, or, chance, impossible, unlikely, even, likely, certain, percentage, decimal, fraction, relative frequency

			Time - reminders of time facts. There are 52 weeks in 1 year. There are 60 minutes in 1 hour. Read the time and write it in digital 12 and 24 hours. https://mathsframe.co.uk/en/resources/resource/116/telling-the-time https://www.mathgames.com/ has resources and games on every topic	
Assessment :	**Entry Level GCSE Past Papers**			
Summer 1	**Equations 2D representations of 3D shapes Pythagoras- Hot Spot Using a calculator**	**Algebra** - 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. Geometry and Measures - Pythagoras Theorems Geometry and Measures - 2D representation of 3D shapes - plans and views on drawings, calculating volume of 3D shapes, nets and volume and surface area - including prisms	Use of calculator - wordy maths questions Logic puzzles Work out best buys and best sales when shopping (eg 1 kitkat for 40p or 3 for £1 which is better) Youtube, Tiktok videos Taking apart boxes show the shapes when showing they https://www.mathgames.com/ has resources and games on every topic	solve, linear, graph, straight line graph, quadratic ,factorise, expand, pythagoras, nets, 2D, 3D, plan, front, side, volume, surface area, prism, cube, cuboid, Pythagoras, Hypotenuse, adjacent, opposite,
Assessment :	**Mock Exams Entry Level Resits**			
Summer 2	**Transformations Scatter Graphs Trigonometry Number rules**	**Geometry and Measures -** enlarge, rotate and translate shapes using coordinate grids, describe transformations, plot enlargements with negative and fractional scale factor **Statistics -** scatter diagrams - drawing diagrams and lines of best fit, using lines of best fit to find information, finding equation of lines of best fit, describing correlation **Number** - further development on links between fractions, decimals, percentages and ratios including ordering, writing fractions as percentages or decimal, recurring decimals	Youtube videos and tiktok videos on topics Use mirrors to create drawings from reflections. Do paintings and fold the paper in half to create a mirror image. https://www.mathgames.com/ has resources and games on every topic	Shapes, transformation, rotation, reflection, enlargement, translation, coordinates, vectors, describe, scale factor, scatter graph, points, best fit, fractions, decimals, percentages, ratios ordering, recurring, trigonometry, hypotenuse, opposite, adjacent