

KS4 Curriculum Overview (Mathematics)

GCSE Resit (Sixth Form)

TERM 1 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
<ul style="list-style-type: none"> • LCM and HCF • Indices • Rounding • Estimates and approximation. • Bounds • Standard Form • Stem and a leaf diagram • Fractions • Decimals 	<ul style="list-style-type: none"> ▪ Express a number by the product of its prime factors. Use Venn diagram to find LCM and HCF. ▪ Use the index rule for multiplication and division (indices with the same base). ▪ Simplify an expression containing negative powers. Find the value of a positive number raised to a fractional power. ▪ Round to significant places using large numbers and values less than hundredths. ▪ Estimate calculations for a given calculation. ▪ Give the upper and lower bound of a rounded number or measurement. ▪ Convert in and out of standard form for a range of values, add, subtract, multiply and divide in standard form ▪ Stem & leaf diagram, including a key. Find mode, median, range and quartiles from a stem and leaf diagram. ▪ Add and subtract fractions with and without calculators. ▪ Multiply and divide fractions with and without calculators. 	<p>Proportions, compound measures, have links to careers such as: Finance Manufacturing, Business administrators etc.</p>
TERM 2 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
<ul style="list-style-type: none"> • HCF and LCM • Percentages • Fractions • Percentages, Decimals & Fractions • Ratio • Standard Form • Compound Measures • Compound Measures • Distance Time Graph • Interpret graphs 	<ul style="list-style-type: none"> • Factors, Multiples Prime factorization, HCF and LCM • Percentage, of an amount, percentage change and reverse percentage change. • Fractions: Order, add, subtract, divide, multiply and finding a fraction of an amount. • Convert between PDF • Simplifying and sharing in a given ratio • Add and subtract in standard form. • Compound measures: SDT, PFA and DMV • Multiply and divide in standard form. • Calculate force, pressure, area. 	<p>Ratio, Fractions, percentages LCM and HCF have links manufacturing, business, computing programming</p>

<ul style="list-style-type: none"> • Perimeter • Metric Units • Area of compound shapes • Area of circle • Volume 	<ul style="list-style-type: none"> • Draw and interpret Distance-time graphs. Calculate average speed from the gradient. • Draw and interpret graphs from real data • Find the perimeter of a range of 2D shapes. • Recall metric conversions to convert between units. • Use a formula to work out the area of compound shapes. • Recall and use (and rearrange) the area of a circle given a radius or diameter. • Calculate volume of a prism and a cylinder <p>Calculate volume of a pyramid and cone.</p>	
TERM 3 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
<ul style="list-style-type: none"> • Units Measurement • Simultaneous equations • Indices • Surface area • Simultaneous problems • 2D Shapes • Decimals • Percentages • Simple and Compound interest • Venn diagram • Ratio • Recipes • Unitary method of calculation • Angles • Angles in polygons 	<ul style="list-style-type: none"> • Scales and units of measurements • Solve linear simultaneous equations: Graphically. • Solve Indices problems. • Surface area of a sphere and a hemisphere • Set up and solve simultaneous equations by appropriate method. • 2D shapes: Lines of symmetry, rotational symmetry • Calculations using mixed numbers (to include calculations with decimals) • Working out a percentage of an amount, percentage change with and without calculator and expressing a number as a percentage. • Calculate an amount after adding simple interest and compound interest/depreciation. • Use Venn diagrams to show info, extract information from Venn diagrams and use set notation. • Ratio to fraction conversions and problem-solving ratios. • Increase and decrease amounts in a recipe as the number of servings varies. • Compare products using the unitary method. (Amount per £1, cost per unit amount) and so find the 'best buy'. • Find missing angles in triangles and quadrilaterals. • Calculate interior and exterior angles in regular polygons, find missing angles and calculate the number of sides for an unknown polygo 	<p>2D shapes, unit of measurement, surface area have links to careers such as: Engineering, Finance Manufacturing, builders, painters etc.</p>

TERM 4 TOPIC/s	▪ *Key Skills/Subject Links	*Career links & BV
<ul style="list-style-type: none"> • Surface Area • Quadratics Equations • Trigonometry • Volume • Cubic Graphs 	<ul style="list-style-type: none"> ▪ Surface area problems. ▪ Solve quadratics equations using graphs. ▪ Draw quadratic graphs from a table of values, identify lines of symmetry, minimum or maximum points. ▪ Use Cos to find missing side or angle. ▪ Calculate volume of a pyramid and cone ▪ Area of 2-D shapes including circles ▪ Use Tan to find missing side or angle. ▪ Recognize, draw, and find the roots of cubic graphs. 	<p>Trigonometry, surface area Volume have links to careers such as: Engineering, Manufacturing, builders, painters etc.</p>
TERM 5 TOPIC/s	▪ *Key Skills/Subject Links	*Career links & BV
<ul style="list-style-type: none"> • Volume • Pythagoras Theorem • Trigonometry • Transformation • Sequences • Probabilities • Problem Solving • Expressions 	<ul style="list-style-type: none"> • Volume of prisms, and sphere • Pythagoras Theorem • SOHCAHTOA (recap) • Recognise, draw, and state the value of x for which the equation is not defined. • Transformation: Reflection, Translation, Rotation and Enlargement (recap) • Identify if a number is in a sequence or not. • Identify independent events, find probabilities using AND rule. Draw tree diagrams to work out probabilities. • Multi step problems using a mixture of Sin, Cos, Tan and Pythagoras. • Simplifying expressions by collecting like terms 	<p>Pythagoras Theorem, Trigonometry, sequences, Volume have links to careers such as: Engineering, Manufacturing, builders, painters, administrators etc.</p>
TERM 6 TOPIC/s	▪ *Key Skills/Subject Links	*Career links & BV

<ul style="list-style-type: none"> • Expanding bracket • Factorizing • Linear equations • Simultaneous equations • Averages • Probability • Representing data • Linear sequences • Inequalities 	<ul style="list-style-type: none"> • Expand single and double brackets. • Expanding Quadratics • Factorizing linear expression • Factorising quadratics • Solving linear equation • Solving linear Simultaneous equations • Averages from small data • Probability tree problems • Representing data: Pictogram, Bar Chart and Pie chart • Nth term of linear sequences • Compare sets of data using a measure of average and spread, recognise outliers and comment on their effect. • Solve linear inequalities. <p>(The year 10 foundation maths topics have links to many other subjects, find some examples below. Sciences, computer Science, Business studies computer studies, Geography home economics etc)</p>	<p>Averages, simultaneous equations, sequences can be linked to careers such as: Manufacturing, forecaster, builders, finance etc.</p>
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