

## MATHS CURRICULUM

| Term | Beyond the curriculum      | Year 7<br>Junior UKMT - set 1 & 2  | Year 8<br>Personal Finance Level 1<br>Junior UKMT - Set 1 & 2   | Year 9<br>Statistics GCSE - Set 1-3<br>Intermediate UKMT - Set 1  | Year 10<br>Statistics GCSE - Set 1-3<br>Further Maths Level 2 - set 1  | Year 11<br>Statistics GCSE - Set 1-3  |
|------|----------------------------|--|---|---|--|---|
| 1    | <b>September - October</b> | Adding and subtracting decimals<br>Multiplying and dividing decimals;<br>Negative numbers calculations<br>Adding and subtracting mixed fractions<br>HCF and LCM<br>Prime factors<br>Area of 2D shapes<br>Area of Compound shapes | Percentage increases and decreases;<br>Recognise/draw the graph of a linear equation;<br>Scatter graphs and correlation<br>Solving equation with unknowns on both sides | <u><b>Set 1-4:</b></u><br>Multiplying & dividing decimals<br>Expanding double brackets<br>Factorising<br>Mixed Fractions calculations<br><br><u><b>Set 5:</b></u><br>Arithmetic with negative numbers<br>Order of operations (BIDMAS)<br>Metric Conversions           | <u><b>Set 1-4:</b></u><br>Area and volume of similar shapes<br>Calculating Probabilities<br>Two Way Tables<br>Venn Diagrams<br>Simultaneous Equations<br><br><u><b>Set 5-6:</b></u><br>Translation<br>Reflection<br>Rotation<br>Enlargement  | <u><b>Set 1-4:</b></u><br>Algebraic Proof<br>Composite Functions and Inverse functions<br>Vectors in Geometry<br><br><u><b>Set 5-6:</b></u><br>Compound interest<br>Reverse percentages<br>Pie Charts<br>Scatter graphs                                 |
|      | <b>November - December</b> | Order of operations (BIDMAS)<br>Substituting into expression<br>Collecting Like terms<br>Expand and simplify brackets<br>Finding the nth term of a sequence<br>Averages from a list of numbers<br>Solving linear equations       | Circumference and Area of Circles<br>Using probability<br>Congruent Shapes<br>Enlargement<br>Pythagoras' theorem<br>Personal Finance Level 1                            | <u><b>Set 1-4:</b></u><br>Scatter Diagrams<br>Sequences (Linear & Quadratic)<br>Direct proportion<br><br><u><b>Set 5:</b></u><br>Averages (mean/median/mode) & Range<br>Angles (around a point, straight line)<br>Angles in polygons<br>Multiples, Factors and Primes | <u><b>Set 1-4:</b></u><br>Rules of indices;<br>Standard Form<br>Linear Inequalities<br>Graphical Inequalities<br><br><u><b>Set 5-6:</b></u><br>Adding and subtracting Vectors<br>Expectations, choices and outcomes<br>Calculating probabilities<br>Systematic listing and counting<br>Volume and surface area of a cuboid | <u><b>Set 1-4:</b></u><br>Sine and Cosine Rule<br>Box plots<br>Cumulative frequency graphs<br>Probability tree diagrams<br>Direct and indirect proportion<br><br><u><b>Set 5-6:</b></u><br>Construction<br>Volume of 3D shapes (pyramids/cones/spheres) |

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| 2 | <b>January - February</b> | <p>Multiplying and Dividing Mixed Fractions</p> <p>Angles in a Triangle</p> <p>Angles in a Quadrilateral</p> <p>Angles formed by parallel lines;</p> <p>Plot equations of a straight line</p> | <p>Drawing frequency diagrams</p> <p>Averages from frequency tables</p> <p>Frequency polygons</p> <p>Comparing data</p> <p>Repeated percentage change</p> <p>Distance–time graphs</p> | <p><b>Set 1-4:</b></p> <p>Pythagoras' Theorems</p> <p>Trigonometry</p> <p>Compound Interest &amp; Depreciation</p> <p><b>Set 5:</b></p> <p>Prime Factorisation</p> <p>Rounding</p> <p>Multiplying and dividing decimals</p>   | <p><b>Set 1-4:</b></p> <p>Convert recurring decimals to fractions</p> <p>Surds (simplify and rationalising)</p> <p>Plotting quadratic graphs</p> <p>Solving quadratic (factorising)</p> <p>Solving quadratics (formula)</p> <p><b>Set 5-6:</b></p> <p>Volume &amp; surface area of prisms</p> <p>Volume and surface area of a cylinder</p> <p>Solving linear equations</p> | <p><b>Set 1-4:</b></p> <p>Direct and indirect proportion</p> <p>Distance-Time graphs</p> <p>Velocity time graphs</p> <p>Circle Theorems</p> <p><b>Set 5-6:</b></p> <p>Pythagoras Theorem</p> <p>Trigonometry (SOHCAHTOA)</p> <p>Nth term of sequences</p> |
|   | <b>March - April</b>      | <p>Percentage of amount</p> <p>Simple interest</p> <p>Volume/Surface area of Prisms</p> <p>Experimental Probability</p>   | <p>Angles in polygons</p> <p>Expanding brackets</p> <p>Factorising expressions containing powers</p> <p>Trigonometry (SOHCAHTOA)</p> <p>Constructions</p>                             | <p><b>Set 1-4:</b></p> <p>Equation of a straight line</p> <p>Parallel &amp; Perpendicular lines</p> <p>Angles in polygons</p> <p><b>Set 5:</b></p> <p>Fractions (add, subtract, multiply, divide)</p> <p>Plotting Straight line graphs</p> <p>Gradient of a line (from a graph and using coordinates)</p> | <p><b>Set 1-4:</b></p> <p>Solving quadratic equations graphically</p> <p>Linear and non linear simultaneous equations</p> <p>Completing the square</p> <p><b>Set 5-6:</b></p> <p>Solving equations with unknowns on both sides</p> <p>Equivalent percentages, decimals and fractions</p> <p>Percentage increase and decrease</p> <p>Compound measures</p>                  | <p><b>Set 1-4:</b></p> <p>Circle Theorems</p> <p>Transformation of graphs</p> <p><b>Set 5-6:</b></p> <p>Similarity</p> <p>Two way Tables</p> <p>Simultaneous equations</p>  |

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| 3                  | May - June  | Simplifying Ratios<br>Sharing ratios in given amounts<br>Reflection<br>Rotation | Volume and surface area of prisms<br>Speed/Distance/Time<br>Density/Mass/Volume | <p><b>Set 1-4:</b><br/>Congruent triangles<br/>Transformations<br/>Construction &amp; Loci</p> <p><b>Set 1-4:</b><br/>Substitution<br/>Expanding and simplifying single brackets<br/>Expanding and simplifying double brackets<br/>Factorising</p> | <p><b>Set 1-4:</b><br/>Solving quadratic Inequalities<br/>Rotation<br/>Sectors</p> <p><b>Set 5-6:</b><br/>Compound interest<br/>Repeated percentage change<br/>Reverse percentage<br/>Direct proportion<br/>Inverse proportion</p> | <p><b>Set 1-4:</b><br/>Revision</p> <p><b>Set 5-6:</b><br/>Revision</p>   |
|                    | June - July | Enlargement<br>Pie Charts<br>Venn diagrams                                      | Plotting Quadratic Graphs<br>Standard form<br>Rounding and Error Interval       | <p><b>Set 1-4:</b><br/>Volume and Surface Area of 3D-shapes<br/>Area/Arc length of sectors<br/>Pythagoras theorem in 3D<br/>Bearings</p> <p><b>Set 5:</b><br/>Quadratic Factorisation<br/>Speed/Distance/Time<br/>Direct proportion problems</p>   | <p><b>Set 1-4:</b><br/>Choice ( combinations)<br/>Circle Theorems</p> <p><b>Set 5-6:</b><br/>Sampling<br/>Pie charts<br/>Scatter diagrams<br/>Grouped data and averages<br/>Constructing triangles<br/>Loci problems</p>           |   |
| Additional reading |             | Collins KS3 Maths Now: Learn and Practice Book                                  | Collins KS3 Math Now- Learn and Practice Book                                   | Collins Edexcel GCSE Maths Higher<br>Collins Edexcel GCSE Maths Foundation   | Collins Edexcel GCSE Maths Higher<br>Collins Edexcel GCSE Maths Foundation<br><br>Pearson Statistics Student Book 9-1<br><br>Further Maths Book: Set 1<br>AQA level 2 certificate in Further Mathematics                           | Collins Edexcel GCSE Maths Higher<br>Collins Edexcel GCSE Maths Foundation<br><br>Pearson Statistics Student Book 9-1 |

**Useful websites / links**

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