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| Year 7 | Autumn 1 | Autumn 2 | | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|  | Number | | Algebra | | Geometry | Ratio and Proportion | Probability and Statistics |
| Topics | * Standard column procedures * 4 rules of number extending to fractions and decimals * Order of operations * Factors, multiples, primes * Convert between fractions, decimals and percentages. * Rounding and estimation | | * Collecting like terms * Forming and simplifying expressions * Expand single brackets and factorise * Solve simple linear equations * Recognise, generate and extend sequences and graphs | | * Recall basic angle   facts   * Use a protractor * Convert standard units of measurement * Find perimeter and area of 2D shapes | * Understand ratio and equivalence * Simplify ratio and divide in a quantity * Construct scale drawings * Calculate   proportional amounts | * Construct and interpret charts and graphs * Find averages and range   of data sets   * Use two way tables and Venn Diagrams |
| Application | * Word problems * Functional problems * Real life context * Money | | * Use formulae in a variety of contexts e.g. perimeter and area * Solve worded problems using algebra * Apply sequences in real life contexts * Make connections between sequences and graphs | | * Problem solve with area and perimeter * Apply area and perimeter knowledge in context * Investigate angles in regular polygons and parallel lines | * Use bearings with   scale   * Ratio in context e.g.   money   * Interpret map/model scales * Use ratio within   other contexts e.g. angle problems | * Construct charts and   graphs based on real life data   * Extend knowledge of averages and range to grouped frequency tables * Explain when and why it   is appropriate to use each average   * Compare sets of data |

Assessment: There are in-class termly assessments consisting of past exam questions on topics studied. Students are also informally assessed using their written class work/homework and verbal comments during lessons.

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| Year 8 | Autumn 1 | Autumn 2 | | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|  | Number | | Algebra | | Geometry | Ratio and Proportion | Probability and Statistics |
| Topics | * Standard column procedures * 4 rules of number including fractions and decimals * Order of operations * Prime factors, Highest Common Factor, Lowest Common Multiple * Convert between fractions, decimals and percentages. * Increase/decrease a percentage and find a percentage of an amount * Rounding to decimal places and significant figures | | * Collecting like terms * Substitute into simple expressions and formulae * Find input/output for function machines * Expand and factorise one and two brackets * Be able to change the subject of a formula * Be able to expand double brackets * Solve multi step equations * Use y=mx+c * Plot quadratic graphs * Identify symmetry and perform transformations | | * "Classify 2D and 3D shapes * Use reflective and rotational symmetry * Constructions using loci • Recall and apply Pythagoras’ Theorem * Find area and perimeter   of 2D shapes including circles | * Be able to draw and interpret charts and graphs * Understand scatter   graphs, lines of best fit and correlation   * Calculate mode, median, mean and range from stem and leaf diagrams | * Simplify ratios and understand equivalence * Divide ratios in a given quantity * Calculate proportions using the unitary method * Construct and interpret scale drawings * Find bearings and interpret model scales |
| Application | * Word problems * Functional problems for highest common factor and lowest common multiple * Real life context, financial mathematics e.g. VAT and compound interest * Solve problems with percentage change | | * Use formulae in a variety of contexts e.g. perimeter, area and angles * Solve worded problems using algebra * Understand straight line graphs in the context of real life problems * Substitute into formulae such as SUVAT equations | | * Problem solve with area   in a real life context   * Understand loci in a wider context * Real life context for   Pythagoras’ Theorem | * Interpret correlation in various contexts * Use pie charts in a variety of contexts * Collect, record, group data and make inferences and draw conclusions | * Use bearings in real life situations * Identify the scale factor of an enlargement as the ratio   of corresponding sides   * Convert between currencies |
| Prior knowledge | ● Year 7 Number topics | | ● Year 7 Algebra topics | | ● Year 7 Geometry topics | ● Year 7 Ratio and  Proportion topics | * Year 7 Probability and Statistics topics |

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| Year 9 | Autumn 1 | Autumn 2 | | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|  | Number | | Number Algebra | | Geometry | Ratio and Proportion | Probability and Statistics |
| Topics | * Squares, cubes, other powers and roots * Decimals and Fractions (mixed) including 4 rules * Percentages - including growth, interest, decay and reverse * Use of a multiplier * Product and prime factors HCF/LCM and Venn Diagrams * Rounding, error intervals and estimation * Use of a scientific calculator * Standard form and Indices | | * Substitute into Formulae * Expand, simplify and factorise including quadratics * Solve equations * Rearrange formulae * Represent and Solve Inequalities * Straight line graphs using y=mx+c | | * Describe and perform Transformations * Properties of shapes and simple angle facts * Perimeter and area of   2D shapes   * 3D forms * Mensuration * Angles in parallel lines and other angle facts * Interior and exterior angles * Pythagoras and   Trigonometry | * Best value * Exchange rates * Simplify Ratio and   divide in a quantity   * Proportion - unitary method * Pie charts - construct and interpret | * Drawing and interpreting tables and charts * Probability using F/D/P * Two way tables - draw and complete * Frequency trees * Averages including from a table and estimating |
| Application | * HCF/LCM in context * Standard Form in real life context including very big and very small numbers * Percentage profit/loss * Compound Interest | | * Use formulae such as SUVAT equations * Quadratics in the context of area * Apply y=mx+c | | * Angles and Bearings in context * Scale diagrams and maps * Pythagoras and   Trigonometry in context | * Ratio and proportion   in context e.g. recipes   * Apply exchange rates and best buys | * Real life Data * Comparing data and making inferences * Probability in context |
| Prior knowledge | * Year 7 and 8 Number topics | | * Year 7 and 8 Algebra topics | | * Year 7 and 8 Geometry topics | ● Year 7 and 8 Ratio and  Proportion topics | * Year 7 and 8 Probability and Statistics topics |

Assessment: There are in-class termly assessments consisting of past exam questions on topics studied. Students are also informally assessed using their written class work/homework and verbal comments during lessons.