## Curriculum map template: Maths

| $\begin{gathered} \text { YEAR } \\ 7 \end{gathered}$ | AUTUMN 1 | AUTUMN 2 | SPRING 1 | SPRING 2 | SUMMER 1 | SUMMER 2 |
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|  | Knowledge)/skill(s): <br> UNIT 1 Calculations <br> 1. 1 Place value 1.2 Comparing integers and Ordering integers 1.3 Adding, subtracting, multiplying \& dividing 1.4 Multiply and divide by powers of 10 1.5 Solving financial problems 1.6 Tables and Timetables 1.7 Negative numbers 1.8 BIDMAS | Knowledge)/skill(s): <br> UNIT 3 Expanding \& Factorising <br> 3.1 Writing expressions, algebraic notation 3.2 Simplifying expressions <br> 3.3 Function machines <br> 3.4 Expanding single brackets <br> 3.5 Factorising simple expressions <br> 3.6 Substitution <br> 3.7 Solving equations | Knowledge)/skill(s): <br> UNIT 5 Fractions, decimals \& percentages <br> 5. 1 Fractions of an amount <br> 5.2 Fraction calculations 5.3 Percentage of an amount non calc 5.4 Percentage of an amount calc 5.5 Percentages over 100\% <br> 5.6 Converting between FDP | Knowledge)/skill(s): <br> UNIT 7 Angles \& Shape Properties <br> 7.1 Draw and measure lines and angles <br> 7.2 Recognize triangles \& quadrilaterals \& polygons <br> 7.3 Basic Angle facts 7.4 Symmetry \& tessellation | Knowledge)/skill(s): <br> UNIT 9 Graphs <br> 9.1 Plotting coordinates <br> 9.2 Creating a table of values 9.3 Drawing straight line graphs 9.4 Real life graphs | Knowledge)/skill(s): <br> UNIT 11 Sequences <br> 11.1 Describe and continue sequences 11.2 Sequences in a table and graphically 11.3 Linear \& Nonlinear 11.4 Explaining the term-to-term rule 11.5 Finding missing terms |
|  | UNIT 2 Measurements <br> 2.1 Units of measurements <br> 2.2 Perimeter <br> 2.4 Area of rectangles <br> \& triangles <br> 2. 5 Area of trapezium and parallelogram 2.6 Surface area of cuboid | UNIT 4 Ratio \& Proportion <br> 4.1 Direct proportion 4.2 Writing \& simplifying ratios 4.3 Dividing into a given ratio 4.4 Recipe problems | UNIT 6 Factors \& Multiples <br> 6. 1 Factors, primes \& multiples <br> 6.2 Product of prime factors <br> 6.3 HCF \& LCM <br> 6.4 Square and triangular numbers 6.5 Powers and roots | UNIT 8 Rounding \& Estimation <br> 8.1 Rounding <br> 8.2 Significant Figures <br> 8.3 Estimation | UNIT 10 Probability \& Statistics <br> 10.1 Probability scales 10.2 Sample space 10.3 Experimental probability 10.4 Averages 10.5 Collecting \& representing data 10.6 Bar charts \& pie charts |  |
|  | Assessment): <br> - Self/peer (all) <br> - End of unit test | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP1 (Aut 1 and Aut 2) | Assessment: <br> - Self/peer (all) <br> - End of unit test | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP2 (Aut 1\&2, Spr 1\&2) | Assessment: <br> - Self/peer (all) <br> - End of unit test | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP3 (end of year) |



| $\begin{gathered} \text { YEAR } \\ 9 \end{gathered}$ | 1.1 Adding \& Subtracting fractions 1.2 Multiplying \& Dividing fractions <br> 1.3 Calculating percentage increase <br> \& decrease <br> 1.4 Reverse <br> percentages <br> 1.5 Repeated <br> percentage change <br> 1.6 Recurring decimals <br> UNIT 2 Sequences <br> 2.1 Linear sequences <br> 2.2 Arithmetic <br> sequences <br> 2.3 Geometric <br> Sequences <br> 2.4 Quadratic sequences <br> UNIT 3 Algebraic Manipulation <br> 3.1 Expanding brackets <br> 3.2 Factorising quadratics <br> 3.3 Difference of two <br> squares <br> 3.4 Simplifying algebraic fractions <br> 3.5 Algebra and shape | 4.1 Nets, plans \& elevations <br>  <br> Similarity <br> 4.3 Properties of triangles <br> 4.4 Properties of polygons <br> 4.5 Draw and measure angles <br> 4.6 Basic angle facts <br> 4.7 Angles in parallel lines <br> 4.8 Angles in polygons <br> 4.9 Angle problems <br> with algebra <br> 4.10 Bearings <br> UNIT 5 Index Laws \& Surds <br> 5.1 HCF \& LCM <br> 5.2 Index Laws <br> 5.3 Surds <br> 5.4 Standard form | 6.2 Forming and solving equations 6.3 Solving equations with algebraic fractions 6.4 Rearranging formulae 6.5 Solving inequalities <br> UNIT 7 Area \& Volume <br> 7.1 Area of 2D Shapes <br> 7.2 Area and Circumference of a circle <br> 7.3 Nets, plans \& elevations <br> 7.4 Surface area of cubes \& cuboids 7.5 Surface area of prisms <br> 7.6 Surface area of cylinders <br> 7.7 Volume of cubes \& cuboids <br> 7.8 Volume of prisms \& cylinders | 8.1 Single event probability <br> 8.2 Independent <br> events <br> 8.3 Using tree diagrams <br> 8.4 Cumulative frequency <br> 8.5 Box plots <br> 8.6 Averages from grouped data <br> UNIT 9 Graphs <br> 9.1 Drawing linear graphs <br> 9.2 Gradients <br> 9.3 Equations of a straight line 9.4 Midpoint of a line 9.5 Parallel \& perpendicular lines | 10.2 Direct proportion and conversion graphs 10.3 Solve problems with inverse proportion 10.4 Graphs of inverse relationships 10.5 Solve ratio problems 10.6 Solve problems involving ratio and algebra <br> UNIT 11 Pythagoras <br> Theorem <br> 11.1 Squares \& square roots <br> 11.2 Pythagoras Theorem <br> 11.3 Using Pythagoras on coordinate axis | 12.2 Use distance time graphs 12.3 Solve problems with density, mass and volume <br> 12.4 Convert compound units 12.5 Exchange rates \& graphs |
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|  | Assessment: <br> - Self/peer (all) <br> - End of unit test | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP1 (Aut 1 and Aut 2) | Assessment: <br> - Self/peer (all) <br> - End of unit test | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP2 (Aut 1\&2, Spr 1\&2) | Assessment: <br> - Self/peer (all) <br> - End of unit test | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP3 (end of year) |
| $\begin{gathered} \text { YEAR } \\ 10 \end{gathered}$ | Knowledge)/skill(s): <br>  <br> Percentages <br> 1.1 Fraction <br> Calculations <br> $1.2 \%$ of an amount | Knowledge)/skill(s): <br> UNIT 4 Angles <br> 4.1 Angles in parallel lines (2) <br> 4.2 Angles in polygons <br> (2) | Knowledge)/skill(s): <br> UNIT 6 Power \& Roots <br> 6.1 Indices <br> 6.2 Surds <br>  <br> Estimation | Knowledge)/skill(s): <br> UNIT 8 Ratio \& Proportion <br> 8.1 Ratio <br> 8.2 Ratio \& fractions <br> 8.3 Ratio problems <br> 8.4 Ratio \& scales | Knowledge)/skill(s): <br> UNIT 10 Statistics \& Probability <br> 10.1 Averages from grouped data | Knowledge)/skill(s): <br> Revision |


| $1.3 \%$ increase \& decrease 1.4 \% change 1.5 Reverse percentages 1.6 \% problems 1.7 Converting between FDP 1.8 Recurring decimals <br> UNIT 2 Sequences <br> 2.1 Linear sequences <br> 2.2 Quadratic sequences 2.3 Special sequences <br> UNIT 3 Expressions \& Functions <br> 3.1 Expanding binomials <br> 3.2 Factorising quadratics 3.3 Using formulae/Substitution 3.4 Equations, identities \& formulae <br> 3.5 Functions <br> 3.6 Simplifying algebraic fractions | 4.3 Bearings (2) <br> 4.4 Constructions (3) <br> UNIT 5 Area \& Volume <br> 5.1 Area of 2D shapes <br> 5.2 Parts of a circle, <br> area \& circumference <br> of circles <br>  <br> length of an arc <br> 5.4 Volume of cuboids <br> \& prisms <br> 5.5 Volume of <br>  <br> cones <br> 5.6 Surface area of 3D shapes | 6.4 Limits of accuracy <br> 6.5 Bounds <br> 6.6 Standard form <br> 6.7 Calculating with <br> standard form <br> UNIT 7 Equations \& Inequalities <br> 7.1 Solving linear equations <br> 7.2 Solving equations involving brackets <br> 7.3 Solving equations involving fractions <br> 7.4 Rearranging formulae <br> 7.5 Drawing straight <br> line graphs <br> 7.6 Inequalities <br> 7.7 Solving inequalities <br> 7.8 Representing inequalities on a graph <br> 7.9 Simultaneous equations | 8.5 Combining ratios <br> 8.6 Proportion <br> 8.7 Transformations <br> UNIT 9 Pythagoras \& Trigonometry <br> 9.1 Pythagoras theorem <br> 9.2 Trigonometry <br> 9.3 Bearings using <br> Pythagoras \& trigonometry | 10.2 Cumulative frequency 10.3 Box plots 10.4 Scatter graphs 10.5 Probability 10.6 Experimental probability 10.7 Venn diagrams 10.8 Tree diagrams <br> UNIT 11 Graphs <br> 11.1 Gradients 11.2 Midpoints \& length of a line 11.3 Equation of a straight line 11.4 Drawing quadratic graphs |  |
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| Assessment: <br> - Self/peer (all) <br> - End of unit test | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP1 (Aut 1 and Aut 2) | Assessment: <br> - Self/peer (all) <br> - End of unit test | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP2 (Aut 1\&2, Spr 1\&2) | Assessment: <br> - Self/peer (all) <br> End of unit test | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP3 (end of year) |


| $\begin{gathered} \text { YEAR } \\ 11 \end{gathered}$ | Knowledge)/skill(s): | Knowledge)/skill(s): | Knowledge)/skill(s): | Knowledge)/skill(s): |
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|  | N1 Prime Numbers N2 Multiples and | G1 Circle Terminology | N19 Fractions and | Al6 Factorise single |
|  | N2 Multiples and factors | G2 Area of a circle G3 Circumference of | percentages <br> N20 Fractions and | bracket <br> A17 Linear equations |
|  | N3 LCM \& HCF | a circle | ratio problems | A18 Multiplying single |
|  | N4 Product of prime | G4 Arc lengths and | N21 Terminating | brackets |
|  | factors | sectors | decimals and | A19 Writing formulae |
|  | N5 Ordering Numbers | GH1 Circle Theorems | fractions | and expressions |
|  | HN2 Product rule | G5 Area of triangles, | N22 Divide by a | A20 Derive an |
|  | N6 Calculate with | trapezium and | fractions1 Pie charts | equation |
|  | decimals | parallelogram | S2 Types of data | AH12 Expand two or |
|  | N7 Order of operations | G6 Area of composite | S3 Comparing data | more binomials |
|  | N8 Compound | shapes | using graphs | AH13 Quadratic |
|  | Measures | G7 Perimeter of 2D | S4 Scatter graphs | equations |
|  | N9 Converting metric | shapes | S5 Time series | AH14 Represent |
|  | units | G8 Volume of prisms | SH1 Histograms | quadratic |
|  | N10 Powers and roots | G9 Surface area | SH2 Cumulative | inequalitiesA21 |
|  | HN3 Surds | GH2 Volume of 3D | frequency | Expanding binomials |
|  | N11 Index Laws | shapes | SH3 Box plots | A22 Expressions, |
|  | N12 Rounding | GH3 Similar shapes <br> R1 Use ratio notation | SH4 Quartiles and interquartile rangeG10 | equations and formulae |
|  | N13 Estimations | R1 Use ratio notation R2 Compare fractions, | interquartile rangeG10 <br> Alternate and | formulae <br> A23 Factorising |
|  | N14 Standard form N15 Index Laws | R2 Compare fractions, decimals and | Alternate and corresponding angles | A23 Factorising quadratic expressions |
|  | HN4 Index laws | percentages | G11 Bearings | A24 Solve linear |
|  | (negative and | R2 Compare lengths, | G12 Loci | inequalities one |
|  | fractional) | areas and volumes | G13 Standard | variable |
|  | Al Sequences and | R3 Comparing | constructionsG14 | AH15 Quadratic |
|  | rules | quantities as a ratio | Pythagoras | equations |
|  | A2 Position to term rule | R4 Division of a | G15 Trigonometry | (completing the |
|  | A3 Sequences of | quantity as a ratio | GH4 Area of a triangle | square) |
|  | square, triangular and | RH1 Scale factors and | GH5 Cosine rule | AH16 Approximate |
|  | cube | similarity | GH6 Pythagoras and | solutions to equations |
|  | A4 Nth term of a linear | RH2 Solve proportion | trig 2D and 3D | using iterationS6 |
|  | sequence | problems | GH7 Sine ruleG16 | Averages |
|  | AH1 Nth term of a | RH3 Gradients and | vectors | S7 Averages from |
|  | quadratic sequence | the rate of changeR5 | G17 Transformations | grouped data |
|  | AH2 Geometric | Express one quantity | GH8 Combined | P1 Frequency trees |
|  | sequences | as a percentage of | transformations | P2 Mutually exclusive |
|  | A5 Four quadrants | another |  | P3 Relative frequency |


| $\begin{gathered} \text { YEAR } \\ 11 \end{gathered}$ | A6 Equation of a line A7 Graphs of linear functions A8 Graphs of quadratic functions A9 Plotting straight line graphs <br> AH3 Equation of a line and perpendicular lines <br> AH4 Cubic and Reciprocal graphs Al0 Using the equation of a straight line <br> AH5 Exponential graphs <br> AH6 Equation of a circle <br> AH7 Equation of a tangent <br> AH8 Gradient and area under graphs | R6 Problems involving ratios <br> R7 Proportion and ratio <br> R8 Ratio and fractions <br> R9 Ratio sharing <br> RH4 Compound units <br> RH5 Direct and inverse <br> proportion problems <br> R10 Percentage <br> change <br> R11 Simple interest and financial maths <br> RH6 Growth and <br> decay <br> RH7 Reverse <br> percentage changes <br> N16 Error Intervals <br> N17 Adding and subtracting fractions N18 Multiplying fractions <br> HN5 Recurring decimals HN6 Upper and lower bounds | GH9 Vector arguments and proofAll Linear equations one unknown <br> A12 Using formulae <br> A13 Changing the subject <br> A14 Collecting like terms <br> A15 Expressions <br> AH9 Quadratic equations factorising AH10 Simultaneous equations AH11 Algebraic fractions | P4 Theoretical probability P5 Venn diagrams P6 Probability of dependent events PH1 Probability of independent evens PH2 Conditional probability |
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|  | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP1 | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP2 | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP3 | Assessment: <br> - Self/peer (all) <br> - End of unit test <br> - AP4 |



| $\begin{gathered} \text { Year } \\ 12 \end{gathered}$ | Unit 3 Further Algebra <br> a. Algebraic division, factor theorem and proof <br> b. The binomial expansion <br> Unit 4 Trigonometry <br> a. Trigonometry <br> Trigonometric ratios and graphs <br> b. Trigonometric identities and equations |  | Unit 4 Statistical distribution <br> a. Use discrete distributions to model real-world situations; Identify the discrete uniform distribution; Calculate probabilities using the binomial distribution (calculator use expected) <br> Unit 5 Statistical hypothesis testing <br> a. Language of hypothesis testing; Significance levels <br> b. Carry out hypothesis tests involving the binomial distribution | a. Newton's first law, force diagrams, equilibrium, introduction to $\mathrm{i}, \mathrm{j}$ system <br> b. Newton's second law, ' $F=m a$ ', connected particles (no resolving forces or use of $F=\mu R$ ); <br> Newton's third law: equilibrium, problems involving smooth pulleys <br> Unit 4 Kinematics 2 <br> a. Variable force; <br> Calculus to determine rates of change for kinematics <br> b. Use of Integration for kinematics problems |  |  |
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