# Curriculum Overview | Mathematics 2022-23

## What will my child learn in Maths?

| | Term 1 | Term 2 | Term 3 | Term 4 | Term 5 | Term 6 |
|---|---|---|---|---|---|---|
| **Year 7** | **Fractional thinking**<br>○ Probability<br>○ Factors, multiples, primes<br>○ Fractions (+/-) | **Algebraic thinking**<br>○ Directed number<br>○ Manipulating algebra<br>○ Exploring sequences | **Proportional reasoning**<br>○ Fractions (×/÷)<br>○ Proportion<br>○ Ratio<br>○ Scale diagrams | | **Using shape**<br>○ Coordinates & introducing straight line graphs<br>○ Properties of shape<br>○ Notation/labelling conventions<br>○ Perimeter & area<br>○ Circles – area & circumference | **Fractional thinking**<br>○ Probability<br>○ Factors, multiples, primes<br>○ Fractions (+/-) |
| **Year 8** | **Delving into data**<br>○ Angle<br>○ Interpreting & comparing<br>○ Averages<br>○ Scatter graphs | **Formalising algebra**<br>○ Solve equations<br>○ Sequences (nth term)<br>○ Graphs of linear functions, y=mx+c | **Proportional relationships**<br>○ Percentages<br>○ Convert between fractions, decimals & percentages<br>○ Ratio – with linear functions & fractions<br>○ Units of measure | | **Geometrical reasoning**<br>○ 3D shape<br>○ Volume<br>○ Angle, constructing triangles<br>○ Pythagoras | **Delving into data**<br>○ Angle<br>○ Interpreting & comparing<br>○ Averages<br>○ Scatter graphs |
| **Year 9** | **Working with number**<br>○ Rounding, estimation<br>○ Error Intervals<br>○ Standard form<br>○ Indices<br>○ Working algebraically<br>○ Expanding & factorising<br>○ Identities | **Numerical reasoning**<br>○ Percentages<br>○ Money<br>○ Probability<br>○ Finding probabilities<br>○ Frequency trees<br>○ Probability tree diagrams | **Working with data**<br>○ Statistical measures<br>○ Averages from frequency tables<br>○ Boxplots<br>○ Reasoning geometrically<br>○ Angles in parallel lines<br>○ Bearings<br>○ Constructions & loci | **Solving**<br>○ Solving equations<br>○ Solving inequalities<br>○ Simultaneous equations<br>○ **Sequences**<br>○ Linear nth term<br>○ Fibonacci, quad & geometry<br>○ Quadratic nth term | **Graphing**<br>○ Straight line graphs<br>○ Graphical solutions, parallel lines<br>○ Sketching graphs<br>○ Rearranging<br>○ Rearranging formulae<br>○ Units, compound measures | **Scaling**<br>○ Direct/inverse proportion<br>○ Similarity<br>○ Scale diagrams & maps<br>○ Visualising<br>○ Transformations<br>○ Plans & elevations<br>○ Surface area |

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| **Year 10** | **Properties of number**<br>○ Factors, multiples, primes<br>○ HCF/LCM<br>○ Bounds<br>○ Fractional & -ve indices<br>○ Surds<br>○ Pythagoras with surds<br>○ Rationalising the denominator | **Similarity**<br>○ Congruent, similar shapes<br>○ Enlargement<br>○ Trigonometry<br>○ FDP<br>○ Frac/percent op & change<br>○ Reverse percentages<br>○ Growth & decay<br>○ Recurring dec & frac | **Combinations & prob**<br>○ Systematic listing<br>○ Sample spaces<br>○ Venn diagrams<br>○ Product rule for counting<br>○ Probability trees (non-r)<br>○ Geometry<br>○ Circles<br>○ Area, volume<br>○ Volume/surface area | **Algebra & Graphing**<br>○ Straight line graphs – algebra review<br>○ Function notation<br>○ Solving quadratics<br>○ Real life graphs<br>○ Sketching quadratics<br>○ Perpendicular lines<br>○ Equation of circle, tangent | **Algebraic fractions**<br>○ Fractions review<br>○ Algebraic fractions<br>○ Complex rearranging<br>○ Visualising<br>○ Transformations<br>○ Invariance<br>○ Vectors, ops<br>○ Proof using vectors | **Pie charts, all bar charts**<br>○ Frequency tables<br>○ Cumulative frequency<br>○ Histograms<br>○ Polygons<br>○ Angles review, polygons<br>○ Circle theorems |
| **Year 11** | **H Algebra: Solving**<br>○ Completing the square<br>○ Iteration<br>○ Further sim equations<br>○ **Geometry**<br>○ 3D trig<br>○ Non right angled<br><br>**F Algebra: Solving**<br>○ Simplifying, solving & rearranging, identities<br>○ Solving quadratics<br>○ **Geometry**<br>○ Area & volume review<br>○ Trig, exact values<br>○ Vectors<br>○ Arcs & sectors | **H Algebra: Graphing**<br>○ Composite, inverse functions<br>○ Transformations of graphs<br>○ Rates of change<br>○ Area under curve<br>○ Graphs of trig functions<br><br>**F Algebra: Graphing**<br>○ Ratio, equations & graphs<br>○ Plotting graphs<br>○ Sketching inc cubic, reciprocal<br>○ Inequalities – solve & shade<br>○ **Formal mocks** | **Revision through reasoning and problem-solving:**<br>○ Multiplicative<br>○ Best buys, bank accounts, ratio with everything<br>○ Geometric<br>○ Reasoning with angle<br>○ Shape problems – add/split<br>○ Multi-step problems<br>○ Algebraic<br>○ Evaluation of others work<br>○ Proof | **Formal mocks**<br>**Exam Revision** | **Final exams**<br>Class level planning responsive to mock analysis, overseen and supported by maths subject leaders | **Final exams** |