

**OVERVIEW**

Students study topics in each of the five key strands in mathematics: Number, Algebra, Geometry, Ratio & Proportion and Statistics & Probability. Each strand builds on their prior learning from Years 7, 8, and 9. We focus on developing knowledge and skills in each of the five strands which students will then build on to solve problems and reason mathematically.

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- Unit F1: Integers and Place Value** – place value, four operations, order of operations
- Unit F2: Decimals** – place value, four operations, powers of 10
- Unit F3: Rounding** – nearest integer, nearest 10, 100, 1000, decimal places
- Unit F4: Squares and Cubes** – square and cube numbers, roots
- Unit F5: Indices** – index laws, powers of 10, order of operations
- Unit F6: Calculator Skills**
- Unit F7: Simplifying Algebra** – like terms, multiplying terms, dividing terms
- Unit F8: Expanding and Factorising** – expanding and factorising with single brackets
- Unit F9: Solving Equations** – solving one and two step equations, with brackets
- Unit F10: Time and Timetables** – converting time, reading timetables
- Unit F11: Measuring** – measuring lines and angles
- Unit F12: Factors, multiples and primes** – multiples, LCM, factors, HCF, prime factors, prime factor decomposition
- Unit F13: Fractions, decimals and percentages** – converting between fractions, decimals and percentages
- Unit F14: Units and Conversions** – converting between units of length, capacity and mass

**Assessment:**

Students will be informally assessed every lesson using questioning, mini whiteboards and marking of independent work.

There will be an End of Topic Review at the end of each unit or group of units.

**Spr**

- Unit F15: Area and Perimeter (Grids)** – area of a shape from a grid, perimeter of a shape from a grid
- Unit F16: Polygons** – naming polygons, exterior angles, interior angles
- Unit F17: Circles** – parts of a circle, circumference, area
- Unit F18: Symmetry** – line symmetry, rotational symmetry
- Unit F19: Averages and Range** – mean, median, mode and range
- Unit F20: Representing Data** – bar charts, line graphs, pictograms, stem and leaf diagrams, pie charts
- Unit F21: Forming and Solving Equations** – forming expressions from words, forming and solving equations from worded problems, forming and solving equations involving shape and angles
- Unit F22: Compound Measures** – calculating speed distance and time, calculating average speed, distance time graphs, calculating density mass and volume, calculating force pressure and area
- Unit F23: Rearranging** – one step rearranging, multi step rearranging, rearranging with fractions, with negative unknowns and with unknowns on both sides

**Assessment:**

Mid-Year assessments will take place in January.

Students will be informally assessed every lesson using questioning, mini whiteboards and marking of independent work.

There will be an End of Topic Review at the end of each unit or group of units.

**Sum**

- Unit F24: Growth and decay** – simple interest, compound interest, comparing compound and simple interest, depreciation, exponential growth and decay
- Unit F25: Plotting Graphs** – plotting straight line graphs, plotting quadratic graphs, properties of quadratic graphs, cubic and reciprocal graphs
- Unit F26: Product Rule**
- Unit F27: Standard Form Calculations** – converting numbers to and from standard form, adding and subtracting, multiplying and dividing
- Unit F28: Right Angle Trigonometry** – finding missing side lengths, finding missing angles, problem solving with trigonometry
- Unit F29: Transformations 2** – reflection, rotation, enlargement and translation, combined transformations, positive and negative enlargement

**Assessment:**

Students will be informally assessed every lesson using questioning, mini whiteboards and marking of independent work.

There will be an End of Topic Review at the end of each unit.

End of Year assessments will take place in June.

**Useful resources for supporting your child at home:**

- Videos on Sparx ([www.sparxmaths.uk](http://www.sparxmaths.uk))
- Videos on Corbett Maths ([Videos and Worksheets – Corbettmaths](#))
- CGP GCSE Maths Edexcel Revision Guide ([link here](#))
- REVISE Pearson Edexcel GCSE (9-1) Mathematics ([link here](#))

**Homework:**

- Homework will be set on Sparx ([www.sparxmaths.uk](http://www.sparxmaths.uk)).
- Homework will be set once a week and students are expected to complete 100% of their homework each week. Homework is bespoke for all students depending on their performance in previous weeks.