



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 and makes sure that students are confident in the fundamentals of mathematics. 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.

Autumn

Unit F1: Algebra – collecting like terms, multiplying terms, mixed simplifying and collecting like terms, one and two step substitution

Unit F2: Integers – multiplying and dividing by 10, 100, 100, multiplication using the grid method and division

Unit F3: Time and Timetables – converting time, adding and subtracting time, start and end time and reading timetables

Unit F4: Compound Measures – calculating speed distance and time, distance time graphs, calculating density mass and volume, calculating force pressure and area and real life graphs

Unit F5: Percentages – percentages of amounts, percentage increase and decrease, converting between fractions, decimals and percentages

Unit F6: Growth and decay – percentage multipliers, simple interest, compound interest, depreciation and reverse percentages

Unit F7: Rearranging – one step rearranging, multi-step rearranging and rearranging with fractions

Assessment:

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

There will be an assessment checkpoint each half term.

Spring

Unit F8: Factors, multiples and primes – odd and even, squares and cubes, roots, multiples, LCM, factors, HCF, prime numbers, types of number from a list and prime factor decomposition

Unit F9: Directed Number – ordering negatives, adding negatives, subtracting negatives, double signs, and multiplication and division with negative numbers

Unit F10: Plotting Graphs – coordinates, vertical and horizontal lines, plotting straight line graphs, plotting quadratic graphs, properties of quadratic graphs and recognizing types of graphs

Unit F11: Converting Units – multiplying and dividing by powers of 10, appropriate units, converting between units of length, capacity and mass

Unit F12: Shape – names of shapes and properties, area of a shape from a grid, perimeter of a shape from a grid, perimeter of rectangles and squares and area of rectangles and squares

Unit F13: Quadratics – expanding, simplifying and factorising with single brackets, expanding quadratics, factorizing quadratics and solving quadratics

Unit F14: Congruence and Similar Shapes – congruence and similarity and similar shapes

Assessment:

Mid-Year assessments.

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

There will be an assessment checkpoint each half term

Summer

Unit F15: Transformations 2 – reflection, rotation, column vectors, translation, describing transformations and enlargement

Unit F16: Fractions – shading on a diagram, equivalent fractions, simplifying fractions, fractions of amounts, multiplying and dividing fractions, adding and subtracting fractions and probability of single events

Unit F17: Ratio 2 – simplifying ratios, ratios as fractions, sharing in a ratio when the total, part or difference is given and mixed ratio problems

Unit F18: Bearings – using a protractor and a ruler, using scales, scale drawings and maps, reading bearings and drawing bearings

Assessment:

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

There will be an assessment checkpoint each half term

End of Year assessments will take place in June.

Useful resources for supporting your child at home:

Videos on Sparx (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).

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.