



The Mathematics Curriculum Team have high expectations and aspirations for all of their students. Our vision is to develop students who have the resilience, adaptability and mathematical skills necessary for modern life and to instil in them an enthusiasm for the subject and a confidence in their own ability.

We want our students to develop an understanding that mathematics is important in everyday life and to provide them with a set of tools that will help them to reach aspirational targets through use of number, problem solving, logical reasoning, thinking in abstract ways and with creativity. We will encourage them to apply these skills across all subjects and to the real world.

Topics to be covered in Year 10

	Term 1	Term 2	Term 3
Topics to be covered	<p>A selection of these topics will be covered throughout the year, as appropriate to the strength of prior learning and progress made, returning to them as necessary to build deeper understanding and use the applications. The topics from previous years will also be revisited, and some topics may be deferred until later to ensure depth of understanding of the pre-requisites. Calculator skills will be covered in every topic in every year. Each topic will incorporate algebraic problems and reverse problems wherever possible to encourage deeper understanding of the process.</p> <p>Number: Percentages – applications, types of number, fraction calculations</p> <p>Algebra: Sequences, fractions with letters, simultaneous equations, equations of graphs, real life graphs, inequalities</p> <p>Ratio: Proportion, compound measures</p> <p>Shape: Transformations – individual and combined, vectors, angle facts, circle theorems, trigonometry</p> <p>Statistics: Tree diagrams and frequency tree calculations, outliers in data</p>		
Key vocabulary	<p>Positive, negative, brackets, indices, multiple, factor, fraction, decimal equivalent, decimal place, significant figure, percentage, compare, order, numerator, denominator, upper and lower bounds, standard form, reciprocal, increase, decrease</p> <p>Expression, term, equation, solve, sequence, substitution, plot, variable, inverse operations, gradient, intercept, linear, quadratic, function, rearrange, transpose, flow diagram, numerator, denominator, simultaneous, algebraically, graphically</p> <p>Ratio, share, timetable, unitary, proportion, direct, inverse, constant</p> <p>Parallel, perpendicular, corresponding, alternate, supplementary, co-interior, right angles, isosceles, lines of symmetry, rotation symmetry, equal length, regular, reflection, rotation, translation, enlargement, congruent, similar, vector, hypotenuse, trigonometry, sine, cosine, tangent, adjacent, opposite, theta</p> <p>Probability, mean, median, mode, range, outcome, frequency, sum, sample space, cumulative, box plot, quartile, interquartile, midpoint, polygon</p> <p>Each topic builds upon others and will be developed as far as possible, whilst also revisiting previous topics which are prerequisites for the work.</p> <p>Exam command words: Estimate, explain, work out, simplify, simplest form, calculate, expand, describe fully, solve, factorise, measure, sketch, construct, show your working, diagram not to scale / not accurately drawn</p>		
Skills to be developed	<p>Communication skills, written formal mathematical explanation, verbal explanation, using correct terminology.</p> <p>Team skills through both individual and collaborative work.</p> <p>Proof.</p> <p>Resilience, reasoning and problem-solving skills through work which stretches and challenges.</p> <p>Planning, analysis and interpretation skills.</p>		
Opportunities for revisiting previous learning	<p>The topics in year 10 build on the work completed in previous years, developing these skills further and deepening understanding.</p> <p>Specific skills will be interleaved into the learning at relevant points and in homework and starters.</p> <p>This includes Year 9 topics such as :</p> <p>Standard form, estimation, bounds, using factors, multiples, reciprocals and powers, percentages, Straight line graphs, expand and factorise expressions, harder graphs, function machines, rearranging formulae, solving equations, Proportion, using timetables, best buys, Angles, parallel lines, compound shapes, prisms, area, perimeter, volume, introduction to vectors, transformations, Pythagoras' theorem, Probability, cumulative frequency, box plots, frequency polygons, averages and range from a grouped table, diagrams</p>		

	Term 1	Term 2	Term 3
When will formal assessment of progress take place?	<p>Students are assessed regularly both informally through questioning in lessons and formally via Mid-Year and End of Year examinations which include topics studied from the scheme of work plus some which may be unknown, in order to allow the students to demonstrate ability to apply their skills in both familiar and unfamiliar situations. Students are NOT expected to be able to complete all questions but are encouraged to “have a go”. Each assessment is analysed and feedback given to assist students to be more targeted in their efforts for further improvement. The student is responsible for acting upon the feedback given.</p> <p>Feedback is used continually in lessons in many forms, predominantly modelling, discussion, highlighting misconceptions and suggestions for improvement or extension.</p>		

Year 10 Useful Resources

<https://sparxmaths.com/> - New Homework Site—Launch January 2024

Vle.mathswatch.co.uk - Mathswatch VLE

<https://corbettmaths.com/> - Corbett Maths

<https://www.drfrostmaths.com/> - Dr Frost Maths

<https://www.gcsepod.com/> - GCSE Pod

<https://www.mathsgenie.co.uk/> - Maths Genie Revision

<https://mathsbot.com/> - Mathsbot GCSE Skills Practice

Marking, Assessment and Feedback

Over the course of an academic year students will complete a number of formal assessments, these will be used to assess where students are in their learning journey.

Information from these assessments could be used when making decisions regarding setting of students, reporting progress home and predicting outcomes. Current guidelines mean that we cannot provide as much detailed written feedback as it typical. As a result of this, we will during lessons, evaluate students’ learning through a range of activities including quizzes, class discussions, detailed questioning and other strategies. Through this, students will know where they are in their learning journey and what they need to do next to make further progress.

Teachers will continue to provide planned written feedback on selected pieces of work.

Homework

We use a homework system called Sparx Maths. All Maths homework tasks will be set on here to submit online, with work in books to support. This will be expected to be an hour a week.

Homework tasks are designed to prepare students for future learning or consolidate work completed in the classroom. Students are expected to spend an hour a week of time completing Maths homework independently. It will be clear what should be handed in, when it should be handed in and how it should be handed in.

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