

Curriculum Map 2021/2022



YEAR 9 MATHS

Mathematics is an interconnected subject in which students need to be able to move fluently between representations of mathematical ideas. The programme of study is organised into apparently distinct domains, but students should build on key stage 2 and connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge in science, geography, computing and other subjects.

The curriculum is taught through the six mathematical strands of: Number and Ratio, Algebra, Geometry and Measures, Statistics and Probability

	Autumn 1a	Autumn 1b	Spring 2a	Spring 2b	Summer 3a	Summer 3b
CONTENT <i>Declarative / core / powerful Knowledge – ‘Know What’</i>	Recovery Curriculum in preparation for Year 9	Algebra: Expanding and Factorising	Number: Indices and Fractional Powers	Similarity and Pythagoras	Sequences	Probability
Intent	These topics need to be secure in order to access the topics being covered this year. We understand that learning has been disrupted over the last two years and these skills will ensure students have the skills to access the curriculum.	Algebra is the language of maths. As the complexity of problems increase, as does the knowledge of algebra. This half term is vital for manipulating algebra in more advanced settings	Students will encounter negative indices to assist when it features in standard form. This will also prepare students for when they encounter the final rules of indices next year.	Students will extend their knowledge of proportion in the context of shape. This will prepare students for using proportionality in area and volume situation	Sequences and drawing linear graphs appear together to allow students to compare and contrast the similarities and differences between rules of sequences and equations of lines	Students will build on their knowledge of probability by investigating multi-event probability. Showing the models for mutually exclusive and non-mutually exclusive events together allows students to compare and contrast these ideas.
Skills <i>Procedural Knowledge – ‘Know How’</i>	Students will be able to: Use the 4 operations with decimals, fractions and	Students will be able to: Expand and factorise linear equations and quadratics	Students will be able to: Understand why a negative index is the reciprocal of the	Students will be able to: Find missing lengths on similar shapes	Students will be able to: Solve problems with pictorial sequences	Students will be able to: Use counting strategies and systematic listing

	will be completed in class that covers all the content taught within the half term.	will be completed in class that covers all the content taught within the half term.	will be completed in class that covers all the content taught within the half term.	will be completed in class that covers all the content taught within the half term.	will be completed in class that covers all the content taught within the half term.	will be completed in class that covers all the content taught within the half term.
Links to careers/wider world		<p>Many mathematical models follow a quadratic relationship.</p> <p>Working with gravity and constant acceleration equations</p>		<p>Enlargements of pictures</p> <p>Astronomy and distances to stars</p>	<p>Estimating rabbit populations</p> <p>Using sequences to model financial transactions</p>	<p>Decision making with probabilities</p> <p>Playing games of chance</p>