

Medium Term Planning Document: Maths Year 11

Maths Curriculum Intent:

The Northampton Academy curriculum enables all of our students to thrive and to enjoy learning mathematics. When students start in year 7, we ensure they have the building blocks needed to successfully access and succeed in the secondary curriculum. We prioritise developing students' proficiency in number, geometry and algebra. Topics are regularly revisited and built upon throughout Key Stage 3, for example algebraic manipulation is taught in year 7 and then extended in years 8 and 9 through solving equations and further again when applied to angles problems which require students to create and solve equations.

Students develop an appreciation for the wider uses of mathematics. Not only are they exposed to concepts that they will apply in other subjects in school, but they will also develop the financial and literacy skills required to function successfully in the modern world. Students will be able to read and interpret statistics, they will consider the validity and reliability of the data and be able to question and form a logical argument based upon it. We also aim to show students the historical and cultural influences that maths has had on the world around them.

At Key Stage 4 we aim to add to the foundations that pupils have laid during KS3 by developing both their subject knowledge and the skills needed to solve complex, multi-faceted problems. For example, ratio is introduced in year 8 but revisited in year 10 where students are encouraged to apply this knowledge to increasingly difficult problems.

Students develop their confidence and resilience by being taught difficult concepts in depth, they experience a high volume of practise of these difficult concepts and embrace the fact that they will go wrong at times and will learn from their mistakes. At all points during their mathematics education, students are supported and encouraged to be resilient and independent learners who take responsibility for their education, for example through their revision and home learning. We aim to develop ambitious learners who want to study the subject at Key Stage 5 and beyond.

Students who choose to study Mathematics at a post 16 level have different options including Maths Studies, A Level Maths and A Level Further Maths. Whichever option is chosen, students will learn advanced skills and become increasingly independent mathematicians capable of applying their knowledge in increasingly complex and varied situations.

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The Medium Term Planning document below is designed to show the journey that every student takes through our curriculum. Some elements of the curriculum may be taught over several lessons, others in a single lesson.

Maths 11 Foundation	Year - Half Term 1	
Topic	Content	
Quadratics	Revision of quadratics, factorising, solving, completing the square, quadratic formula	
	Key words: Factorise, solve, turning point, complete the square, quadratic formula	
Recurring decimals to fractions	Types of number (factors, multiples, primes etc)	
	Key words: Convert, recurring, recurring decimal, rational, irrational	
Simultaneous equation	Solve simultaneous equations (both linear and non linear)	
	Key words: Simultaneous equation, linear, quadratic, circle, substitution, elimination	
Cumulative frequency curves, box plots and histograms	Draw and interpret cumulative frequency curves, box plots and histograms	
	Key words: Cumulative frequency, box plot, histogram, quartiles, IQR, median, range, frequency density, consistency	
Sequences	Find and manipulate sequences (including quadratic)	
	Key words: sequences, ascending, descending, term, nth term, linear, quadratic	
Trigonometry	Revision of right angled trigonometry and non-right angled trigonometry	
	Key words: Sin, cos, tan, hypotenuse, sine rule, cosine rule	
Inequalities	Linear and quadratic	
	Key words: inequalities, linear, quadratic	
Functions	Composite and inverse functions	
	Key words: functions, composite, inverse	

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Maths	Year – Half Term 2
Topic	Content
Trigonometry part 2	Exact trig values, trig graphs
	Key words: Sin, cos, tan
Transformations	Revision of transformations
	Key words: Translation, reflection, rotation, enlargement, invariant, combination
Circle theorems	Understand and be able to apply circle theorems
	Key words: radius, diameter, circumference, tangent, prove
Iteration	Iteration
	Key words: Iteration, roots

Summative Assessment:

Mock 1 will take place at the start of half term 2

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Maths	Year – Half Term 3		
Topic	Content		
	All classes will work on bespoke content based on their mock exams and teacher assessment		

Summative Assessment:

Mock 2 will be at the start of half term 4