

KEVICC Key Stage 3 Curriculum Subject: Mathematics		Key terms and Vocabulary.	
Spring Half-Term 1 Algebraic Techniques			
Term: Year 8 Spring Term – Block Two	Topic: Sequences	Sequence	Difference
<p>What is the essential knowledge from this unit? What do students need to remember and understand?</p> <p>The focus of this block is reinforcing students' learning from the start of year 7, extending this to look at sequences with more complex algebraic rules now that students are familiar with a wider range of notation. The higher stand includes finding a rule for the n^{th} term for a linear sequence, using objects and images to understand the meaning of the rule.</p> <p>National curriculum content covered:</p> <ul style="list-style-type: none">• Generate terms of a sequence from a term-to-term rule or a position-to-position term rule.• Recognise arithmetic sequences.• Recognise geometric sequences and appreciate other sequences that arise. <p>We know that breaking the curriculum down into small manageable steps should help students to understand concepts better. As a result, for each block of content in the scheme of learning we have provided the following 'small step' breakdown for this unit as follows:</p> <p>Lesson One - Generate sequences given a rule in words Lesson Two - Generate sequences given a simple algebraic rule Lesson Three - Generate sequences given a complex algebraic rule Lesson Four - Find the rule for the n^{th} term of a linear sequence (H)</p>		Term	Fibonacci
		Position	Substitute
		Rule	Bracket
		Term-to-term	Expand
		Linear	Coefficient
		Non-Linear	Integer
		Algebraic	
		Mathematical questioning should be designed to unpick the structure of the maths and deepen the student's understanding. When students talk about mathematical concepts, they should develop the vital mathematical language that helps them explain their ideas fully.	
		Students are expected and encouraged to use terminology during all discussions, verbal feedback and in written content.	
		What prior learning supports understanding of this content?	
<ul style="list-style-type: none">• Describe and continue sequences in diagram and number forms, both linear and non-linear.• Compare numerical and graphical forms.		<ul style="list-style-type: none">• Recognise and use sequences of triangular, square and cube numbers, simple arithmetic progressions, Fibonacci-type sequences, quadratic sequences and simple geometric progressions.• Deduce expressions to calculate the n^{th} term of linear and quadratic sequences.• Recognise, sketch and interpret graphs of linear functions, quadratic functions and simple cubic.	
Reading: <i>Where in the unit are students supported to read complex academic text?</i>		Writing: <i>Independent writing tasks and how they are structured</i>	
<ul style="list-style-type: none">• Reading and understanding mathematical questions and problems' – teacher input.• Decoding complex examination questions - explain what they are asking the student to do' – teacher input.• Following instructions to solve problems - break down the tasks – teacher input.• Recognising terminology, numbers, and symbols.• Recognising patterns and relationships in mathematics.		<ul style="list-style-type: none">• Using the correct subject specific terminology for numbers and symbols – examination papers, class books.• Responding to questions that ask for an explanation or a reason – examination papers, class books.• Self-evaluation, reviewing, reflecting and analysis of own work –, class books, personalised learning checklists and analysis.• Creating notes that can be used later for revision purposes - class books, revision cards, mind maps etc.	
Key assessments: How will students review the information learned? End of block assessments. End of block assessments provide a quick progress check at the end of each block of learning to make sure students have understood the content covered. A Core paper – it is envisaged that all students will take this paper, to provide a direct comparison with the performance of the rest of the cohort. All topics from each term will be covered, and the use of a calculator is expected. End of term assessments. A Foundation paper – students who are working below national expectations will have the opportunity to show their understanding of the material with more straightforward questions. Non calculator paper. A Higher paper – students who are working at or above national expectations will have the opportunity to tackle more challenging questions on the same material, plus the extra objectives indicated as "Higher" in our scheme of learning. Non calculator paper. How will feedback be seen? Marked end of block and term assessments. Personalised learning checklists for end of term assessments identifying strengths and areas of development. Written teacher feedback and marking in compliance with faculty and College Marking Policies. Student responses to marking. Students self-mark using purple pen. Verbal feedback given every lesson from teacher and peers as appropriate. Teacher and student self-assessment of presentation of class books will be completed to ensure written work is of high standard and students are achieving their potential.			