

Scheme of Learning: Year 8 Spring Term

Topic Sequence: Algebraic Techniques

7	8	9
Brackets, Equations and Inequalities	Sequences	Indices

Topic Overview:

This short block reinforces students’ learning from the start of Year 7, extending this to look at sequences with more complex algebraic rules now that students are more familiar with a wider range of notation. The higher strand includes finding a rule for the  $n^{\text{th}}$  term for a linear sequence, using objects and images to understand the meaning of the rule.

Learning Sequence:

Generate sequences given a rule in words

Building on from Year 7, students revisit the idea of forming a sequence given a rule in words. They should now be able to deal with more complex multi-step rules, and operations such as cubing and rooting. This step is a good chance to revisit the vocabulary of sequences, and students should also be able to use correct language to fully describe a given simple sequence. Exploring Fibonacci sequences is worthwhile.

Generate sequences given a simple algebraic rule

As well as providing practice in substitution, this step provides plenty of opportunity for students to develop their reasoning. They can observe the behaviour of the linear sequences in preparation for the later higher step of finding the rule, and solve equations to determine whether a number is a term in a sequence or not by considering if the solutions are integers. Similarly, they could also practice forming and solving inequalities.

Generate sequences given a complex algebraic rule

Students explored simple algebraic sequences in Year 7. They have since looked at more complex expressions involving squares, cubes and brackets in much more detail and so this step allows them to practice their substitution skills in the context of sequences; they may need reminders as to the behaviour of directed number.

Sequence of Learning:		Topic Resources:	
		Knowledge Maps:	Sequences
1	Generate sequences given a rule in words	Assessment:	
2		Knowledge:	End of Topic test
		Application of Knowledge:	Termly mixed topic assessment
3		Supportive Reading:	
		Any supported reading listed here	Sparx Maths <a href="http://www.sparxmaths.co.uk">www.sparxmaths.co.uk</a>
			Corbett Maths : <a href="http://www.corbettmaths.com">www.corbettmaths.com</a>
			AQA Revision Guide