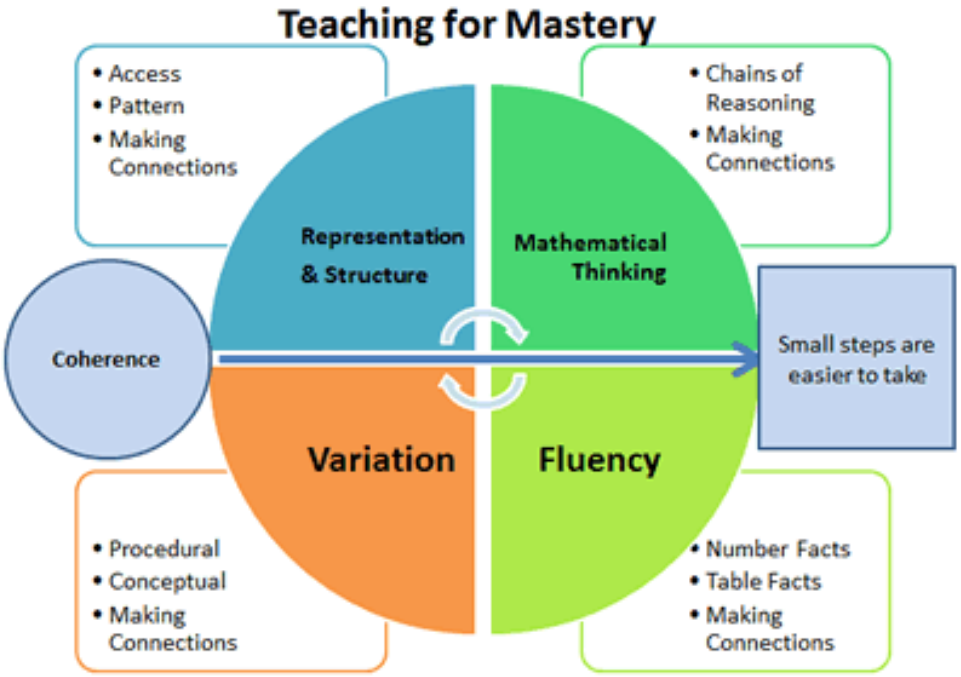
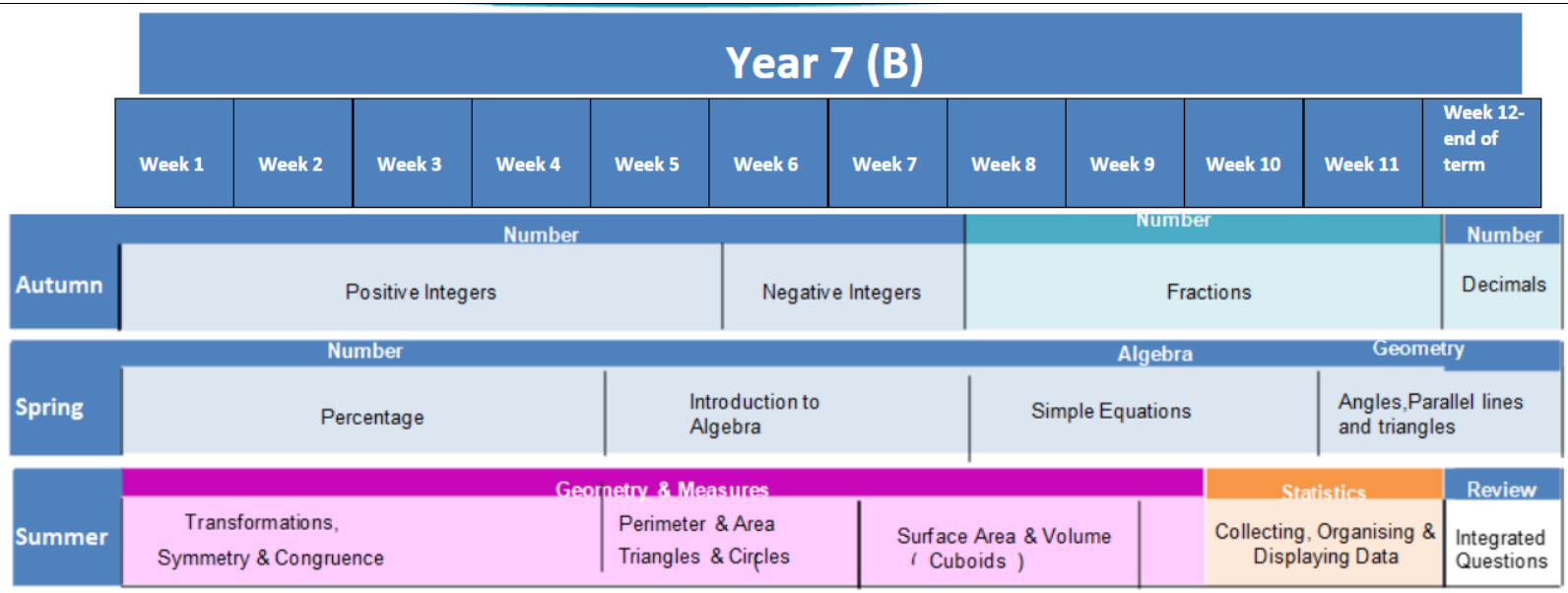
Mathematics Curriculum Plan

Year 7	7 Discovery Mathematics
Curriculum overview	**Mathematics** is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. **Aims** The national curriculum for mathematics aims to ensure that all pupils: • become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. • reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language • can solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. **Discovering Mathematics** embodies the Mastery approach to Mathematics, focusing on manipulative, representation and reasoning to embed deep conceptual understanding. This will impact on our delivery of Mathematics at KS4 as the assessment priorities for GCSE have changed with a greater focus on reasoning, problem-solving and fluency. The Discovering Mathematics series for KS3 starts with the Book 1 A-C series, which differentiates between learners who are behind on transitioning from Year 6 (Book A), those who are where they need to be (Book B) and those who need the opportunity to extend themselves significantly further (Book C). The extension work is designed to deepen understanding and develop reasoning skills rather than race ahead to new topics. In addition, each book has exercises that are divided into three levels, so students can clearly identify differentiated entry points. Through formative assessments, our teachers assess where different students need to start each exercise so low, middle and high ability learners are accommodated.

	The resource is supported in its entirety through the MyMaths online platform where we encourage our Year 7 students to work digitally as well as in their exercise books. The Discovering Mathematics series has been designed around the Key Stage 3 specification and St Michael's has played a significant role in its early delivery as you can see from this clip. http://fdslive.oup.com/www.oup.com/oxed/secondary/maths/Discovering%20Mathematics%20course%20video%20(1).mp4 All of this is supported by an emphasis on key vocabulary where accurate technical language is promoted, particularly through the whole school Oracy program. The latter is further enhanced by lessons planned around the Five Big Ideas of Mastery and textbook class activities which support small group work. 

	Number: Positive and Negative Integers, Decimals Algebra: Expressions, Formulae and Equations Ratio and Proportion: Fractions and Percentages Geometry and Measures: Perimeter, Area, Volume and Surface Area, Transformations, Symmetry and Congruence Statistics: Collecting and Organising Data, Pictograms and Bar Charts (we will be working with Science to collaborate on this area of learning)
Curriculum Plan at a glance	
Assessments	1. Formative assessments constantly take place to ensure gaps in learning are addressed in a timely fashion. 2. Online Skills Tests for each chapter 3. Three assessments take place throughout the year, one in each term of the year. 4. Pupils are given all the details required in advance to help prepare for the exams. 5. Students assess their progress and identify key areas to improve upon, utilising the MyMaths Library to support themselves to become independent learners.
Useful Links	Kerboodle - https://www.kerboodle.com/users/login Mymaths - www.mymaths.co.uk

	Year 7 students begin with the Arithmetic Challenge on the PiXL Maths App platform: https://mathsapp.pixl.org.uk/ Where necessary, students are advised to look at Corbett Maths which has helpful videos to support their learning: https://corbettmaths.com/contents/
Maths Department	mgloor@stmichaelscs.org, Mrs Gloor, KS3 Maths Co-ordinator rakhtar@stmichaelscs.org Mrs. Akhtar Maths Lead Practitioner