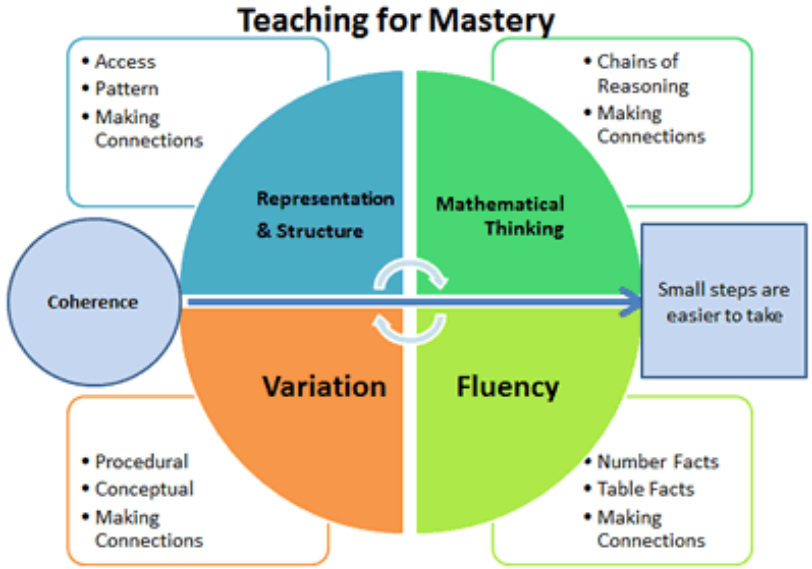
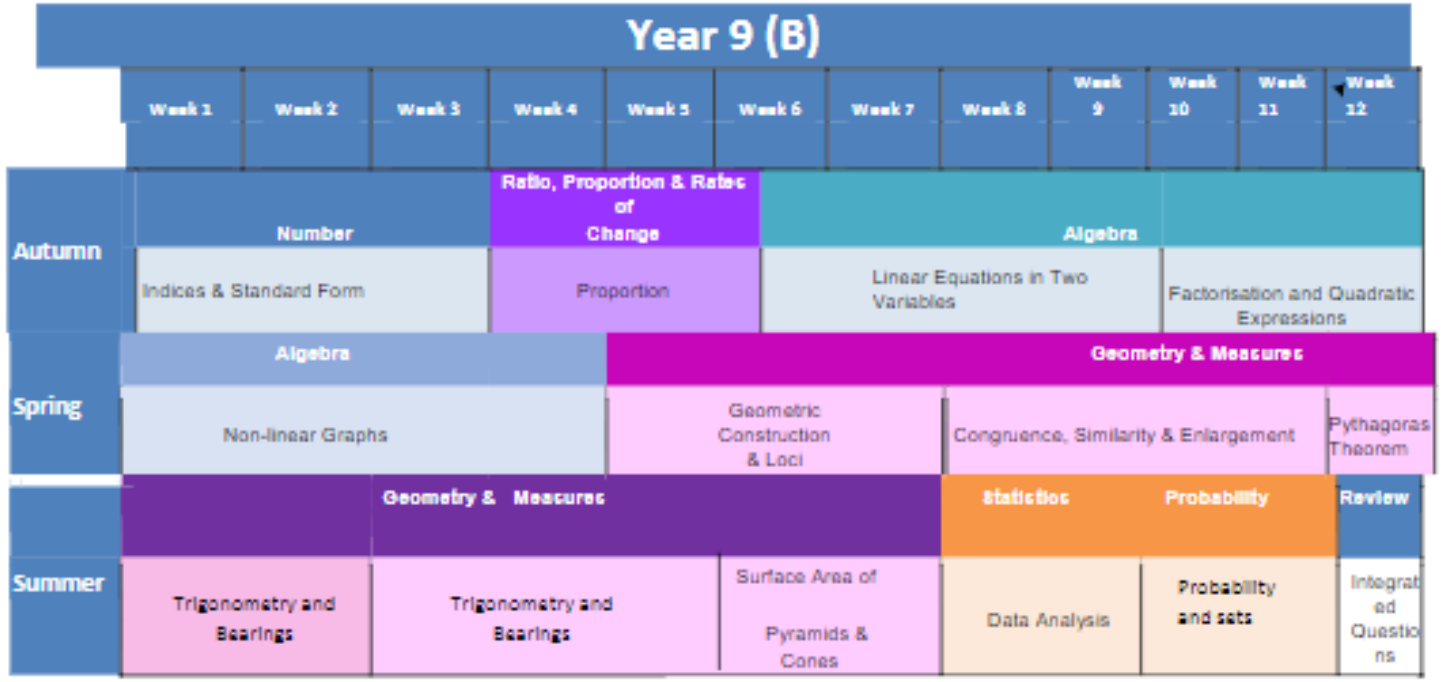
Mathematics Curriculum Plan

Year 9	**9 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 continues with the Book 3 A-C series, which differentiates between learners who are behind at the end of Year 8, those who are where they need to be (Book B) and those who need the opportunity to extend themselves significantly further (Book C). Specifically in Year 9, we set students into two groups of three sets. The third set in each group will be preparing for the Foundation GCSE course in Year 10, while students in the first and second sets will be preparing for Higher. 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 which we supplement with the PiXL Maths App Challenges and assorted homeworks. 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: Indices and Standard Form Algebra: Simultaneous Equations, Quadratic Equations and Non-Linear Graphs

	Ratio and Proportion: Direct and Inverse Proportion Geometry and Measures: Volume and Surface Area of Cones and Spheres; Congruence, Similarity and Enlargement; Pythagoras and Trigonometry, with Bearings; Construction and Loci Statistics: Statistical Analysis Probability: Principals and Venn Diagrams
Curriculum Plan at a glance	

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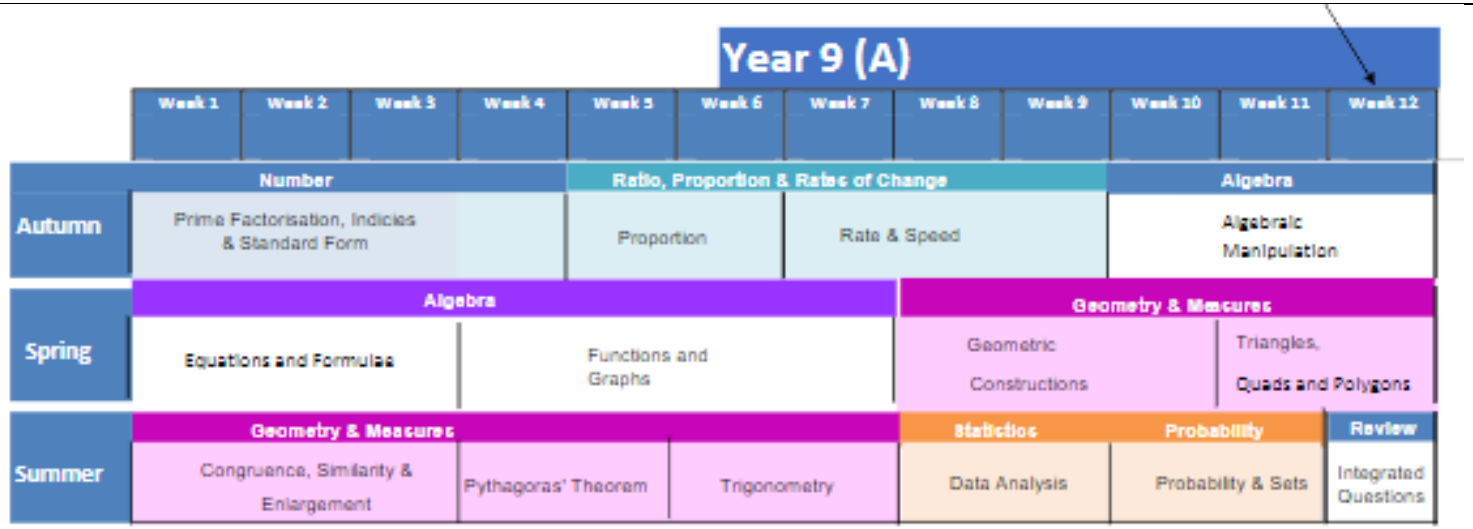
<tr><td></td><td> 
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<tr><td>Assessments</td><td>1. Formative assessments constantly take place to ensure gaps in learning are addressed in a timely fashion.
2. Online Skills Tests for each chapter
3. Three assessments take place throughout the year, 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.</td></tr>
<tr><td>Useful Links</td><td>Kerboodle - https://www.kerboodle.com/users/login
Mymaths - www.mymaths.co.uk

On the PiXL Maths App platform, Year 9 students are working towards the Grade 1-3 and Grade 4-5 Challenges, with tasters of the Grade 6 Challenge for those who need extending: 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/</td></tr>
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