

Students of higher ability	Students of core ability	Students who require more support
<p>Mathematics at Keystage 3 is taught according to the National Curriculum, and students study the six strands Number, Algebra, Geometry, Ratio and proportion, Statistics and Probability. As students progress through Keystage 3, the demand and level of study increases, with students solving more challenging problems in all areas of Mathematics</p>		
<p><b><u>Knowledge and understanding:</u></b></p> <p>Students following the higher level pathway will develop the ability to understand and use mathematics in a wide variety of subject and contexts. They will cover a number of more advance areas in Mathematics including trigonometry, quadratic equations, cumulative frequency, and standard form.</p> <p><b><u>Skills Development:</u></b></p> <p>During the course students will develop a variety of problem solving skills in order to solve complex mathematical problems. A student on the higher pathway will typically display skills such as:</p> <ul style="list-style-type: none"> <li>• Being able to solve simultaneous equations</li> <li>• Calculate missing sides and angles in right angled triangles using trigonometry</li> <li>• Write large and small numbers in Standard Index Form</li> <li>• Use a cumulative frequency graph to solve data handling problems</li> <li>• Use a Venn/Tree diagram to solve problems in probability</li> </ul> <p><b><u>Expected progress by the end of the pathway:</u></b> Students will be able to progress on to GCSE Higher Pathway, with the most able completing Level 2 further Maths.</p>	<p><b><u>Knowledge and understanding:</u></b></p> <p>Students following the core pathway will develop a comprehensive and thorough grounding in essential mathematical skills. They will cover a number of different mathematical areas including equations, straight line graphs, decimal manipulation, areas of compound shapes and averages of data.</p> <p><b><u>Skills Development:</u></b></p> <p>Whilst following the core pathway, students will develop a variety of problem solving skills to help them tackle everyday problems. Students following the core pathway will typically display skills such as:</p> <ul style="list-style-type: none"> <li>• Being able to solve linear equations</li> <li>• Identify a variety of shapes including quadrilaterals</li> <li>• Use diagrams such as pie charts to analyse data</li> <li>• Use Venn diagrams to enumerate problems</li> </ul> <p><b><u>Expected progress by the end of the pathway:</u></b></p> <p>Students will be able to progress on to GCSE Higher pathway.</p>	<p><b><u>Knowledge and understanding:</u></b></p> <p>Students following the support pathway will focus on ensuring that they have secured the basic skills necessary for future success in their GCSE exams. Student will reinforce work on areas such as multiplication and division as well as exploring basic algebraic techniques. They will also learn how to solve proportion problems, as well as analysis data using averages.</p> <p><b><u>Skills development:</u></b></p> <p>Whilst following the support pathway students will develop and reinforce many essential topics. Student following the support pathway will typically display skills such as:</p> <p>Multiplying and dividing large numbers Solving angle problems involving triangles and straight lines Calculate the mean, median and mode for small sets of data Add information to a Venn diagram</p> <p><b><u>Expected progress by the end of Pathway:</u></b></p> <p>Students will be able to progress on to the GCSE Higher or Foundation depending which is most appropriate to their level.</p>

<p><b><u>Assessment:</u></b> Students are assessed three times per year at Key Stage 3 with the results being used to ensure that students are in the correct ability group. Where students demonstrate that they have improved in their ability, they will be moved up as necessary. After each assessment, students will receive a national curriculum level and sub level to help them keep track of their progress.</p> <p>In class students are formatively assessed on a regular basis to help establish their understanding of the work covered.</p> <p>Homework is set on a weekly basis, and students receive feedback in accordance with the schools assessment and feedback policy. Students will also be involved in peer and self assessment in order to help them support them becoming independent learners.</p> <p><b><u>Literacy:</u></b></p> <p>During Keystage 3 students will solve a variety of problems that require students to read scenario and extract information in order to solve problems.</p> <p><b><u>Independent Home Study &amp; VLE:</u></b></p> <p>Students strongly encouraged to undertake additional study at home to help consolidate work in class. This includes homework as well as using other resources such as MyMaths</p>	<p><b><u>Meeting the needs of individual students:</u></b></p> <ul style="list-style-type: none"> <li>• Students are assessed at the start of year 7 and put in to groups that suit their abilities</li> <li>• Students who find Mathematics a more challenging subject will be taught in smaller groups</li> <li>• Students at the top end of the higher pathway are offered the opportunity to enter mathematical competitions such as the UK Maths Challenge.</li> <li>• Students assessed in year 7 as not meeting their potential on the support pathway receive additional support from the Rocket Programme.</li> <li>• Work will be differentiated for students who require more challenge or more support in particular areas.</li> </ul> <p><b><u>Resources for learning:</u></b></p> <p>Students will need to have the following equipment: Pens, pencil, ruler, protractor, compass, calculator, rubber and sharpener</p> <p><b><u>Websites to support learning:</u></b></p> <p><a href="http://www.Mymaths.co.uk">www.Mymaths.co.uk</a> <b>Username:</b> sirjohn <b>Password:</b> Circle</p> <p><a href="http://www.bbc.co.uk/bitesize/ks3/maths">www.bbc.co.uk/bitesize/ks3/maths</a> <a href="http://nrich.maths.org/frontpage">http://nrich.maths.org/frontpage</a> <a href="http://www.educationquizzes.com/ks3/maths/">http://www.educationquizzes.com/ks3/maths/</a></p>	<p><b><u>Extra Curricular activities:</u></b></p> <ul style="list-style-type: none"> <li>• Year 9 students are offered additional after school lessons to help them</li> <li>• Selected students are entered for the UK Maths challenge</li> </ul> <p><b><u>Stretch and challenge:</u></b></p> <p>Students on the higher pathway are given the opportunity to take part in the UK Maths Challenge</p> <p><b><u>SMSC:</u></b></p> <p>The Mathematics Department cover a range of social and moral areas during the course of lessons <b>Spiritual</b> aspects of the curriculum are drawn in when discussing the implications of data analysis in order to justify decisions <b>Moral</b> aspects of the curriculum are drawn in when discussing best buy problems, as well as when looking at different types of data <b>Social</b> aspects of the curriculum are drawn in to a number of different topic areas as students work in pairs or small groups to solve problems <b>Cultural</b> aspects of the curriculum are drawn in when discussing the development of different areas of maths, such as Pythagoras Theorem, or the Chinese Lattice method of multiplication.</p>
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