



## Year 9 Mathematics - Curriculum Overview and KS3 Progress Descriptors

### Aims and Rationale

In Mathematics at KS3 our aim is to:

Develop a positive attitude towards Mathematics and an appreciation of its practical applications in life

Develop problem-solving skills and the ability to use Mathematics in everyday life

Use mathematical language effectively and accurately

Understand mathematical concepts and processes at a level commensurate with student development and ability

Become proficient in fundamental mathematical skills and in recalling basic number facts

Students study Maths for 7 lessons per fortnight. Throughout each year, we follow a scheme of work based on the objectives specified within the National Curriculum. Mathematics is taught in such a way that topics will be revisited from year to year with the skills required extended and deepened each time.

Within the curriculum, students will be challenged by: investigations; mysteries; puzzles; mental agility problems; functional Mathematics; development of key processes; problem-solving; use of thinking skills; and application of Mathematics in the real world.

The skills and methods learnt at KS3 develop students' confidence and fluency in order to prepare them for the demanding topics in KS4.

### Curriculum Content

Year 9 follows the following topics:

Brackets, Prisms, Probability, Quadratics, Plans & Elevations, Pi, Trigonometry, Cumulative Frequency, Sectors, Statistics, Further Algebra and Circle Theorems.

### How we assess at Key Stage 3

At Hitchin Girls' School our curriculum is our progress model. Students benefit from a broad, diverse and challenging curriculum which increases in difficulty and challenge as students progress through the school. The expectation is that all students meet our curriculum at their relevant age range and as such meet the minimum of the secure descriptors below. Those working at an advancing level are working above, while those excelling are consistently working at a level far above their age range.

	<i>Developing</i>	<i>Secure</i>	<i>Advancing</i>	<i>Excelling</i>
<b>Mathematical Skills</b>	<ul style="list-style-type: none"> <li>Is starting to demonstrate written mathematical solutions although working out is limited and may be untidy.</li> <li>Shorter questions are tackled well, but longer / multi-step ones are rarely fully completed.</li> <li>There is a tendency to leave questions when the required method is not obvious.</li> <li>When a topic is revisited there is often little recall.</li> </ul>	<ul style="list-style-type: none"> <li>Has a good understanding of the methods required to solve most questions covered this year.</li> <li>Can present solutions satisfactorily, showing most working and a clear final answer.</li> <li>Demonstrates some perseverance when presented with problems in unusual situations, but some can struggle with the more difficult questions.</li> </ul>	<ul style="list-style-type: none"> <li>Has a very good understanding of the methods required to solve questions within the year's scheme of work.</li> <li>Has a very good understanding of the methods required to solve questions within the year's scheme of work.</li> <li>Is able to demonstrate full understanding of all methods with few mistakes.</li> <li>Presents work carefully and neatly. Can communicate mathematically.</li> <li>Has developed problem solving skills and patience for tackling problems.</li> </ul>	<ul style="list-style-type: none"> <li>Has demonstrated a deeper understanding of the skills and processes required.</li> <li>Can apply their knowledge across the curriculum, making links without explicit teaching.</li> <li>Can successfully solve problems in unfamiliar contexts.</li> <li>Can persevere with problems, using several approaches until a solution is developed.</li> <li>Is curious and often asks well considered questions.</li> </ul>
<b>Mathematical Curriculum Content</b> (Based on teaching group)	<ul style="list-style-type: none"> <li>Can remember some of the key content and how to solve basic questions.</li> <li>Can apply new knowledge to solve the easier questions although recall of prior methods is limited.</li> <li>Can recall the meanings of some key vocabulary, and has started to present work methodically.</li> </ul>	<ul style="list-style-type: none"> <li>Can remember most of the key content and how to solve most questions.</li> <li>Can apply new knowledge to solve most questions and recall of prior methods is solid.</li> <li>Can recall the meanings of much of the new vocabulary, has started to present work methodically and neatly.</li> </ul>	<ul style="list-style-type: none"> <li>Has a good understanding of every topic within the year's scheme of work and can recall and use methods from previous work.</li> <li>Knows all the key facts and key vocabulary, and is presenting work, the necessary steps and final answers in a logical, methodical and neat way.</li> <li>Can recall most formulae and use new vocabulary and notation well.</li> </ul>	<ul style="list-style-type: none"> <li>Can successfully solve all types of questions from this year's scheme of work, accurately, recalling methods from previous years without prompting.</li> <li>Work is logically presented without any superfluous steps.</li> <li>Can recall formulae rapidly, use them correctly and use all vocabulary and notation precisely.</li> </ul>