

**Stone Hill School**

**Long Term Curriculum Plan**

**Mathematics Post 16 FS**

**Subject Intent**

Our Mathematics curriculum aims to ensure that all pupils become confident mathematicians, who can solve real life problems and reach their full potential in qualification work. The curriculum is based on the Maths Mastery principles. Pupils are encouraged to build their fluency by securing their knowledge of mathematical facts and models, and then use this understanding to solve a wide range of problems. Pupils in Year 12 work towards a Functional Skills qualification, as well as a Prince's Trust qualification. Their curriculum moves further towards applying knowledge in reasoning and problem solving tasks, including organising events, learning about banking and budgeting, and also sitting exams where appropriate. Functional Skills is assessed through a formal examination that is externally marked and graded. Mathematics skills are further embedded through the foundation subject curriculums, and the leaders of these subjects contribute to the assessment of pupils in areas such as measures, money and statistics. We also plan multiple opportunities for our pupils to use mathematics in real world situations, through for example, role play, enterprise projects and visits out of school.

<b>Year Group</b>	<b>Post 16 (FS)</b>	<b>Week/s</b>	<b>Topic/Theme</b> <i>Key vocabulary including Tier 3 subject specific words</i>	<b>Learning Outcomes Knowledge and Skills</b> To know, to use, to apply...	<b>Links to:</b> Literacy, Numeracy, SMSC and British Values  Gatsby Benchmarks  Learning Behaviours/Skills Builder
<b>Term</b>					
<b>Autumn</b>		1-5	<b>Number and the 4 operations.</b>  Digit, numeral, total, value, equal, calculation, sum, integer, positive, negative, inverse, square numbers, indices, operators.	<ul style="list-style-type: none"> <li>• Read, write, order and compare large numbers (up to one million).</li> <li>• Recognise and use positive and negative numbers.</li> <li>• Multiply and divide whole numbers and decimals by 10, 100 and 1000.</li> <li>• Use multiplication facts and make connections with division facts.</li> <li>• Calculate the squares of one- digit and two-digit numbers.</li> <li>• Follow the order of precedence of operators.</li> </ul>	<b>Literacy</b> Take part in discussions, talk or write about pictures, answer questions <b>Skills Builder</b> Problem solving, staying positive.

	6-12	<p><b>Fractions, decimals, percentages, ratio and proportion.</b></p> <p>Decimal point, decimal place, equivalent, denominator, numerator, estimate, approximate, round, mixed number, discount, reduce, increase, ratio, proportion</p>	<ul style="list-style-type: none"> <li>• Read, write, order and compare common fractions and mixed numbers.</li> <li>• Find fractions of whole number quantities or measurement.</li> <li>• Read, write, order and compare decimals up to three decimal places.</li> <li>• Add, subtract, multiply and divide decimals up to two decimal places.</li> <li>• Approximate by rounding to a whole number or to one or two decimal places.</li> <li>• Estimate answers to calculations using fractions and decimals.</li> <li>• Read, write, order and compare percentages in whole numbers.</li> <li>• Calculate percentages of quantities.</li> <li>• Calculate simple percentage increases and decreases by 5% and multiples thereof.</li> <li>• Work with simple ratio and direct proportions.</li> <li>• Calculate discounts in multiples of 5% on amounts of money.</li> <li>• Recognise and calculate equivalences between common fractions, percentages and decimals.</li> </ul>	<p><b>Gatsby Benchmark 4</b>  <b>SMSC and British Values</b>  Offer reasoned views, reflect on own success, Enjoy learning about the world around them. (Individual Liberty)  <b>Skills Builder</b>  Problem solving, staying positive.</p>
<p><b>Before the end of the Autumn Term: Pupils will sit a mock examination.</b></p>			<p><b>Literacy</b>  Answer questions  <b>Skills Builder</b>  Aiming high, staying positive.</p>	
Spring	1-2	Formulae	<ul style="list-style-type: none"> <li>• Use simple formulae expressed in words for one or two-step operations.</li> </ul>	<p><b>Gatsby Benchmark 4</b>  <b>Literacy</b>  Decoding</p>

		Formula, formulae, operation, procedure, input, output, inverse.		
3-4	<b>Units of measure</b>	Conversion, mass, length, capacity, volume, millimetre, centimetre, metre, kilometre, litre, millilitre, gram, kilogram, milligram.	<ul style="list-style-type: none"> <li>• Read from a variety of scales</li> <li>• Convert between units of length, weight, capacity, money and time, in the same system.</li> </ul>	<b>Gatsby Benchmark 4</b> <b>SMSC and British Values</b> Enjoy learning about the world around them. (Mutual Respect and Tolerance) <b>Skills Builder</b> Problem solving, teamwork
5-7	<b>Geometry</b>	Angles, degrees, acute, obtuse, right angle, area, perimeter, scale, elevations, net, symmetry, protractor, volume, cubic units, square units.	<ul style="list-style-type: none"> <li>• Recognise and make use of simple scales on maps and drawings.</li> <li>• Calculate the area and perimeter of simple shapes, including those that are made up of a combination of rectangles.</li> <li>• Calculate the volume of cubes and cuboids.</li> <li>• Draw 2-D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles.</li> <li>• Interpret plans, elevations and nets of simple 3-D shapes.</li> <li>• Use angles when describing position and direction.</li> <li>• Measure angles in degrees.</li> </ul>	<b>Literacy</b> Use new vocabulary <b>SMSC and British Values</b> Participate positively in art, Enjoy learning about the world around them. (Mutual Respect and Tolerance)  <b>Skills Builder</b> Problem solving, creativity
<b>During the Spring Term, pupils who are confident with the Functional Skills content will sit their examination. Pupils who are not ready for the exam will sit a second mock exam.</b>				<b>Literacy</b> Answer questions <b>Skills Builder</b> Aiming high, staying positive.
8-11	<b>Statistics and Probability</b>		<ul style="list-style-type: none"> <li>• Find the mean and range of a set of quantities.</li> </ul>	<b>Gatsby Benchmarks 3 and 4</b> <b>Literacy</b>

		Impossible, certain, likelihood, probable, improbable, outcomes, even chance, mean, range, line graph, pie chart, bar chart, quantity, frequency.	<ul style="list-style-type: none"> <li>• Represent discrete data in tables, diagrams and charts, including pie charts, bar charts and line graphs.</li> <li>• Group discrete data and represent grouped data graphically.</li> <li>• Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events.</li> <li>• Use equally likely outcomes to find the probabilities of simple events and express them as fractions.</li> </ul>	Use new vocabulary, comprehend, role play, present information and opinions. <b>SMSC and British Values</b> Offer reasoned views, Understand consequences. (Rule of Law) <b>Skills Builder</b> Problem solving, staying positive.
<b>Summer</b>	1-8	<b>Revision</b>	<ul style="list-style-type: none"> <li>• Pupils will revisit topics that they found most challenging and revise key content.</li> <li>• Pupils who are known to have past Level 1 may begin to study the Level 2 content.</li> </ul>	<b>Literacy</b> Answer questions <b>Skills Builder</b> Aiming high, staying positive.
	<b>During the Summer Term, all pupils studying Functional Skills will have the opportunity to sit the examination.</b>			<b>Literacy</b> Answer questions <b>Skills Builder</b> Aiming high, staying positive.
<b>Intended impact:</b> Pupils will leave Stone Hill School with qualifications that will help them to access Further Education, the 'World of Work' and have the skills and knowledge to live independently. They will have experienced problems set in a wide variety of contexts and will present their answers in full sentences (number or words), developing their ability to problem solve and stay positive. In addition, the interactive and practical nature of the curriculum will have helped them to develop teamwork, speaking and listening skills.				