

Intent: Key Stage 4 Mathematics focuses on preparing pupils for using Mathematics in everyday life, including the workplace. Pupils will work towards meaningful, nationally recognised qualifications; OCR Mathematics (Entry Level) and Functional Skills (which is equivalent to a GCSE grade). In Year 11, pupils who have already achieved Entry Level 3 will work towards obtaining Functional Skills Level 1.

Term	Week/s	Topic/Theme <i>Key vocabulary including Tier 3 subject specific words</i>	Learning Outcomes Knowledge and Skills To know, to use, to apply...	Links to: Literacy, Numeracy, SMSC, Gatsby Benchmarks
Autumn	1-5	Number and the 4 operations. Digit, numeral, total, value, equal, calculation, sum, integer, positive, negative, inverse, square numbers, indices, operators.	<ul style="list-style-type: none"> Read, write, order and compare large numbers (up to one million). Recognise and use positive and negative numbers. Multiply and divide whole numbers and decimals by 10, 100 and 1000. Use multiplication facts and make connections with division facts. Calculate the squares of one- digit and two- digit numbers. Follow the order of precedence of operators. 	Literacy Take part in discussions, talk or write about pictures, answer questions
	6-12	Fractions, decimals, percentages, ratio and proportion. Decimal point, decimal place, equivalent, denominator, numerator, estimate, approximate, round, mixed number, discount, reduce, increase, ratio, proportion	<ul style="list-style-type: none"> Read, write, order and compare common fractions and mixed numbers. Find fractions of whole number quantities or measurement. Read, write, order and compare decimals up to three decimal places. Add, subtract, multiply and divide decimals up to two decimal places. Approximate by rounding to a whole number or to one or two decimal places. Estimate answers to calculations using fractions and decimals. Read, write, order and compare percentages in whole numbers. Calculate percentages of quantities. Calculate simple percentage increases and decreases by 5% and multiples thereof. Work with simple ratio and direct proportions. Calculate discounts in multiples of 5% on amounts of money. Recognise and calculate equivalences between common fractions, percentages and decimals. 	Gatsby Benchmark 4 SMSC Offer reasoned views, reflect on own success, Enjoy learning about the world around them.
Before the end of the Autumn Term: Pupils will sit a mock examination.				
Spring	1-2	Formulae Formula, formulae, operation, procedure, input, output, inverse.	<ul style="list-style-type: none"> Use simple formulae expressed in words for one or two-step operations. 	Gatsby Benchmark 4 Literacy Decoding
	3-4	Units of measure Conversion, mass, length, capacity, volume, millimetre, centimetre, metre, kilometre, litre, millilitre, gram, kilogram, milligram.	<ul style="list-style-type: none"> Read from a variety of scales Convert between units of length, weight, capacity, money and time, in the same system. 	Gatsby Benchmark 4 SMSC Enjoy learning about the world around them.
	5-7	Geometry Angles, degrees, acute, obtuse, right angle, area, perimeter, scale, elevations, net, symmetry, protractor, volume, cubic units, square units.	<ul style="list-style-type: none"> Recognise and make use of simple scales on maps and drawings. Calculate the area and perimeter of simple shapes, including those that are made up of a combination of rectangles. Calculate the volume of cubes and cuboids. Draw 2-D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles. Interpret plans, elevations and nets of simple 3-D shapes. Use angles when describing position and direction. Measure angles in degrees. 	Literacy Use new vocabulary SMSC Participate positively in art, Enjoy learning about the world around them.

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.				
	8-11	Statistics and Probability Impossible, certain, likelihood, probable, improbable, outcomes, even chance, mean, range, line graph, pie chart, bar chart, quantity, frequency.	<ul style="list-style-type: none"> Find the mean and range of a set of quantities. Represent discrete data in tables, diagrams and charts, including pie charts, bar charts and line graphs. Group discrete data and represent grouped data graphically. Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events. Use equally likely outcomes to find the probabilities of simple events and express them as fractions. 	Gatsby Benchmarks 3 and 4 Literacy Use new vocabulary, comprehend, role play, present information and opinions. SMSC Offer reasoned views, Understand consequences.
Summer	1-8	Revision	<ul style="list-style-type: none"> Pupils will revisit topics that they found most challenging and revise key content. Pupils who are known to have past Level 1 may begin to study the Level 2 content. 	
During the Summer Term, all pupils studying Functional Skills will have the opportunity to sit the examination.				

Intended impact:

Pupils will leave Stone Hill School with qualifications and knowledge that will help them to access Mathematics at a Post 16 provision. They will have experienced a formal examination setting and will developed their functional skills to prepare them for entering a workplace. In addition, the focus on refining answers through examination practise will have helped them to develop as reflective learners. Also, the expectation that pupils initially attempt problems by themselves will help them to become more independent enquirers and resourceful thinkers.

