

Stone Hill School
Curriculum Plan 2020/21
Mathematics Years 7-8

Intent:
In the Autumn term, pupils will develop their understanding of place value to 1000 and extend their calculation work to include all four operations. They will progress in their understanding of mental arithmetic and begin to learn multiplication facts by heart. In Spring, they will secure their understanding of quarters and then apply this to reading clocks to the quarter hour and recognising quarter turns. In the Summer term, they will revisit their number work by applying place value and calculation skills to solving measures and money problems.

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	1-3	Place Value Digit, number, numeral, partition, combine, total, value, equal, ones, tens, hundreds, compare, order, symbol, more than, less than.	<ul style="list-style-type: none"> Counting forwards and backwards in steps of 2, 3, 5 and 10 from any number. Recognising the value of digits in 2-digit and 3-digit numbers. Comparing and ordering numbers, using <, > and = correctly. <p>Reasoning and Problem Solving (RPS): Missing number opportunities.</p>	Literacy Take part in discussions
	4-8	Number, Addition and Subtraction Parts, whole, combine, partition, total, number bond, multiple, add, subtract, equal, inverse, operation, increase, decrease, equation, calculate, bridging	<ul style="list-style-type: none"> Adding 3 single digit numbers. Recalling and using number bonds to 20. Using inverse operations to solve missing number problems. Knowing that additions can be solved in any order but subtractions cannot. <p>RPS: Missing number opportunities</p>	Literacy Take part in discussions, talk or write about pictures, answer questions
	9-12	Multiplication and division Group, set, multiple, multiply, divide, counting, equal, pairs, factor, product, array, row, column, inverse, equation, calculate.	<ul style="list-style-type: none"> Recalling and using facts for the two, five and ten multiplication tables. Solve problems involving multiplication and division using arrays, pictorial representations and concrete objects. Recognising and using the multiplication and division signs. <p>RPS: Odd one out opportunities</p>	SMSC Cooperate with others, Offer reasoned views Literacy Talk or write about pictures.
	13-15	Properties of Shapes. Circle, square, triangle, rectangle, 2D, flat, 3D solid, cube, cuboid, sphere, pyramid, prism, cone, cylinder, curved, straight, face, side, angle, vertices, line of symmetry.	<ul style="list-style-type: none"> Naming a range of 2D and 3D shapes. Sorting shapes based on their properties. <p>RPS: Odd one out opportunities</p>	Gatsby Benchmark 4
Spring	1-2	Review of Autumn term	Revisit elements from Autumn Term (as chosen by Class Teacher). <ul style="list-style-type: none"> Four operations in contexts (money/measures). Revisit of shapes. 	Gatsby Benchmarks 4 and 6
	3-6	Fractions Half, quarter, third, whole, part, equal, split, divide, share, groups, numerator, denominator equivalent.	<ul style="list-style-type: none"> Recognising halves, quarters and thirds in a range of contexts. Writing simple fractions with a numerator and denominator. <p>RPS: True, false or sometimes true opportunities</p>	SMSC Offer reasoned views, Cooperate with others Literacy Take part in discussions.
	7-10	Time O'clock, half past, quarter past/to, day, week, month, year, clock face,	<ul style="list-style-type: none"> Read analogue and digital clocks using terms 'o'clock', 'half past' and 'quarter past/to'. Know the months of the year. Know the number of hours in a day. Order events by their duration. 	Literacy Talk or write about pictures, use new vocabulary. Gatsby Benchmark 4

		hands, hour, minute, second, analogue, digital, am, pm.	RPS: Visualisation opportunities	
	11-12	Geometry: Sequences, Position and Direction Opposite, 8-point compass (e.g. North-East/South-West), rotate, quarter turn, half turn, whole turn, clockwise, anticlockwise.	<ul style="list-style-type: none"> Recognise whole, half and quarter turns. Discuss and extend patterns involving shapes and rotations. RPS: Visualisation opportunities	Literacy Use new vocabulary.
Summer	1-3	Money Coin, note, bank card, cash, total, add, change, more, less, customer, increase, decrease, combine.	<ul style="list-style-type: none"> Recognise coins of different values. Combine smaller coins to make different totals. Compare amount of money. Find change from 20p and £1 (when the cost is a multiple of 10p). RPS: Word problem opportunities.	SMSC Socialise with other pupils and other people. Cooperate with others, Enjoy learning about the world around them. Literacy Role play Gatsby Benchmarks 4 and 6
	4-7	Measures: Length, capacity and mass Measuring cylinder, beaker, scales, balancing scales, metre stick, trundle wheel, millilitre, centimetre, metre, millilitre, litre, gram, kilogram, measure, estimate, record.	<ul style="list-style-type: none"> Measure with a reasonable level of accuracy and record findings on a table or chart. Compare measurements using < > and = signs. Solve addition and subtraction problems involving measures. RPS: Word problem opportunities.	Literacy Take part in discussions, develop vocabulary Gatsby Benchmark 4
	8-10	Geometry: Properties of Shapes Circle, square, triangle, rectangle, 2D, flat, 3D solid, cube, cuboid, sphere, pyramid, prism, cone, cylinder, curved, straight, face, side, angle, vertices, rotate, order, sequence, net.	<ul style="list-style-type: none"> Recognise 2D shapes on the faces of 3D objects. Use shapes in patterns and sequences. Describe 2D and 3D shapes based on their properties. Begin to recognise right angles in 2D shapes. RPS: Opportunities to use diagrams, charts and tables	Literacy Use new vocabulary, make marks on materials. SMSC Participate positively in art.
	11-12	Statistics Frequency, total, mark, tally, survey, collect, group, record, category, pictogram, bar chart, axis, scale, icon, conclusion	<ul style="list-style-type: none"> Retrieve information from pictograms, tallies and bar charts. Complete tallies, pictograms and bar chart. Draw simple conclusions from tallies, bar charts and pictograms. RPS: Opportunities to use diagrams, charts and tables	Literacy Ask questions, answer questions, listen to an opinion, use punctuation. SMSC Enjoy learning about the world around them.

Intended impact:

By the end of Year 8, pupils will have a secure understanding of place value and calculation and be able to follow simple procedures and recall number facts with a reasonable level of fluency. They will have experienced problems set in a wide variety of contexts and will present their answers in full sentences (number or words), developing as reflective learners who review their work. In addition, the interactive and practical nature of the curriculum will have helped them to develop as effective participators and resourceful thinkers.