

Stone Hill School
Long Term Curriculum Plan
Mathematics Y 7- 8

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 qualifications 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 Years 5 – 9 access the national curriculum through a mastery approach. Over the first half of the year, they progressively develop their understanding of number, calculation, geometry and fractions. The second half of the year revisits this knowledge through time, money and measure contexts. Assessment at this stage is mostly based on pupil work books and is moderated periodically in whole school meetings and through subject leader book scrutiny. Mathematics skills are further embedded through the foundation subject curriculums, and the leaders of these subjects contribute with 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 situation through, for example, role play, enterprise projects and visits out of school.

Year Group	7-8	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 and British Values Gatsby Benchmarks Learning Behaviours/Skills Builder
Term					
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> <p>Enrichment Activities Ideas: Hiding and finding numbers, partitioning (breaking into groups and sub groups e.g. we need 9 children in the circle and 1 child in the middle, number stair cases.</p> <p>Key Questions: Can you find...? Can you point to....?</p>	Literacy Take part in discussions Skills Builder Staying positive
		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> <p>Enrichment Activities Ideas: dice games, target practice and scoring games, collect natural objects to add and subtract.</p> <p>Key Questions: What is...? How is....?</p>	Literacy Take part in discussions, talk or write about pictures, answer questions Skills Builder Staying positive, Problem solving Careers Describe yourself, your strengths and preferences

	9-12	<p>Multiplication and division</p> <p>Group, set, multiple, multiply, divide, counting, equal, pairs, factor, product, array, row, column, inverse, equation, calculate.</p>	<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> <p>Enrichment Activities Ideas: nature multiplication e.g. build a photo collection, make arrays using natural objects e.g. pine cones and egg boxes, multiplication scavenger hunt (two children equal amounts), sharing natural resources or food.</p> <p>Key Questions: Can you find...? Which is the best answer...?</p>	<p>SMSC and British Values Cooperate with others, Offer reasoned views (Mutual Respect and Tolerance)</p> <p>Literacy Talk or write about pictures.</p> <p>Skills Builder Staying positive, Problem solving</p>
	13-15	<p>Properties of Shapes.</p> <p>Circle, square, triangle, rectangle, 2D, flat, 3D solid, cube, cuboid, sphere, pyramid, prism, cone, cylinder, curved, straight, face, side, angle, vertices, line of symmetry.</p>	<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> <p>Enrichment Activities Ideas: 3D shape dens, making stick shapes, building models, 2D stick pictures, create their own Henri Matisse 'Snail'</p> <p>Key Questions: Which one is...? Where is...?</p>	<p>Gatsby Benchmark 4 Skills Builder Creativity</p>
Spring	1-2	<p>Review of Autumn term</p>	<p>Revisit elements from Autumn Term (as chosen by Class Teacher).</p> <ul style="list-style-type: none"> Four operations in contexts (money/measures). Revisit of shapes. 	<p>Gatsby Benchmarks 4 and 6 Skills Builder Aiming High</p>
	3-6	<p>Fractions</p> <p>Half, quarter, third, whole, part, equal, split, divide, share, groups, numerator, denominator equivalent.</p>	<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> <p>Enrichment Activities Ideas: sharing and scoring games, cook and bake food to be shared e.g. pizza.</p> <p>Key Questions: How would you...? Can you invent...?</p>	<p>SMSC and British Values Offer reasoned views, Cooperate with others (Mutual Respect and Tolerance)</p> <p>Literacy Take part in discussions.</p> <p>Skills Builder Speaking, Listening, teamwork.</p>
	7-10	<p>Time</p> <p>O'clock, half past, quarter past/to, day, week, month, year, clock face, hands, hour, minute, second, analogue, digital, am, pm.</p>	<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. <p>RPS: Visualisation opportunities</p>	<p>Literacy Talk or write about pictures, use new vocabulary.</p> <p>Gatsby Benchmark 4 Skills Builder Aiming high, staying positive.</p>

			<p>Enrichment Activities Ideas: make giant pendulums, make an outdoor clock, play time games.</p> <p>Key Questions: Can you list 3...? What time is....?</p>	
	11-12	<p>Geometry: Sequences, Position and Direction</p> <p>Opposite, 8-point compass (e.g. North-East/South-West), rotate, quarter turn, half turn, whole turn, clockwise, anticlockwise.</p>	<ul style="list-style-type: none"> Recognise whole, half and quarter turns. Discuss and extend patterns involving shapes and rotations. <p>RPS: Visualisation opportunities</p> <p>Enrichment Activities Ideas: obstacle courses, giant spiders' web, design their own treasure map, orienteering.</p> <p>Key Questions: Can you select...? Where is....?</p>	<p>Literacy Use new vocabulary.</p> <p>Skills Builder Leadership, teamwork, problem solving</p>
Summer	1-3	<p>Money</p> <p>Coin, note, bank card, cash, total, add, change, more, less, customer, increase, decrease, combine.</p>	<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). <p>RPS: Word problem opportunities.</p> <p>Enrichment Activities Ideas: visit local shops and services, real treasure hunts, make their own money tree.</p> <p>Key Questions: What is...? How is....?</p>	<p>SMSC Socialise with other pupils and other people. Cooperate with others, Enjoy learning about the world around them. (Mutual Respect and Tolerance)</p> <p>Literacy Role play</p> <p>Gatsby Benchmarks 4 and 6</p> <p>Skills Builder Problem solving</p> <p>Careers Recognise the qualities and skills you have demonstrated both in and out of school that will help to make you employable</p>
	4-7	<p>Measures: Length, capacity and mass</p> <p>Measuring cylinder, beaker, scales, balancing scales, metre stick, trundle wheel, millilitre, centimetre, metre, millilitre, litre, gram, kilogram, measure, estimate, record.</p>	<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. <p>RPS: Word problem opportunities.</p> <p>Enrichment Activities Ideas: make and experiment making different smoothies, go on a massive treasure hunt, design and make their own scales</p> <p>Key Questions: How would you show...? How would you explain....?</p>	<p>Literacy Take part in discussions, develop vocabulary</p> <p>Gatsby Benchmark 4</p> <p>Skills Builder Staying positive, Problem solving</p>

8-10	<p>Geometry: Properties of Shapes</p> <p>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.</p>	<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. <p>RPS: Opportunities to use diagrams, charts and tables</p> <p>Enrichment Activities Ideas: make their own shelters, practice putting up tents, use large objects to make natural patterns, box modelling.</p> <p>Key Questions: What can you say about...? Which one....?</p>	<p>Literacy Use new vocabulary, make marks on materials.</p> <p>SMSC and British Values Participate positively in art. (Individual Liberty)</p> <p>Skills Builder Creativity</p>
11-12	<p>Statistics</p> <p>Frequency, total, mark, tally, survey, collect, group, record, category, pictogram, bar chart, axis, scale, icon, conclusion</p>	<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. <p>RPS: Opportunities to use diagrams, charts and tables</p> <p>Enrichment Activities Ideas: Make giant tally charts using sticks, collect data about nature and present it using natural objects.</p> <p>Key Questions: Which one...? Who was....?</p>	<p>Literacy Ask questions, answer questions, listen to an opinion, use punctuation.</p> <p>SMSC and British Values Enjoy learning about the world around them. (Mutual Respect)</p> <p>Skills Builder Listening, speaking, teamwork</p>

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 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.