

St James Maths Long Term Plan

Black – Unit name

Blue – Statements to teach from progression document

Red – Statement from National Curriculum to teach or use for planning purposes.

	Autumn 1 (7)	Autumn 2 (7)	Spring 1 (5)	Spring 2 (6)	Summer 1 (6)	Summer 2 (6)
<p>Year 5</p> <p>The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.</p> <p>At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in</p>	<p>Number: Place Value</p> <ul style="list-style-type: none"> - <i>Count forwards in steps of powers of 10 for any given number up to 1 000 000</i> - <i>read and write, numbers to at least 1 000 000 and determine the value of each digit [5NPV-2]</i> <p>Number: Addition and Subtraction</p> <ul style="list-style-type: none"> - <i>add whole numbers with more than 4 digits, including using formal written methods (columnar addition)</i> 	<p>Number: Place Value</p> <ul style="list-style-type: none"> - <i>Count backwards in steps of powers of 10 for any given number up to 1 000 000</i> - <i>round any number up to 1 000 000 to the nearest 10, 100, 1 000</i> <p>Statistics</p> <ul style="list-style-type: none"> - <i>complete, read and interpret information in timetables</i> <p>Number: Multiplication and Division</p> <ul style="list-style-type: none"> - <i>divide whole numbers and those involving</i> 	<p>Number: Place Value</p> <ul style="list-style-type: none"> - <i>read Roman numerals to 1 000 (M) and recognise years written in Roman numerals.</i> <p>Number: Addition and Subtraction</p> <ul style="list-style-type: none"> - <i>subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction)</i> <p>Number: Multiplication and Division</p> <ul style="list-style-type: none"> - <i>multiply and divide numbers mentally</i> 	<p>Number: Place Value</p> <ul style="list-style-type: none"> - <i>interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</i> - <i>compare numbers to at least 1 000 000 and determine the value of each digit</i> <p>Number: Addition and Subtraction</p> <ul style="list-style-type: none"> - <i>add and subtract numbers mentally with increasingly large numbers</i> 	<p>Number: Place Value</p> <ul style="list-style-type: none"> - <i>round any number up to 1 000 000 to the nearest 10 000 and 100 000 [5NPV-3]</i> <p>Statistics</p> <ul style="list-style-type: none"> - <i>solve comparison, sum and difference problems using information presented in a line graph</i> <p>Number: Multiplication and Division</p> <ul style="list-style-type: none"> - <i>divide numbers up to 4 digits by a one-digit number using the formal written method</i> 	<p>Number: Addition and Subtraction</p> <ul style="list-style-type: none"> - <i>use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</i> <p>Number: Multiplication and Division</p> <ul style="list-style-type: none"> - <i>multiply numbers up to 4 digits by a two-digit number using a formal written method, including long multiplication for two-digit numbers [5MD-3]</i> <p>Number: Fractions</p>

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<p>arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and</p>	<p>Number: Multiplication and Division</p> <ul style="list-style-type: none"> - multiply whole numbers and those involving decimals by 10, 100 and 1000 [5NF-2], [5MD-1] - identify multiples [5MD-2] <p>Number: Fractions</p> <ul style="list-style-type: none"> - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents [5NPV-4] - identify, name and write equivalent fractions of a given fraction, represented visually, including 	<p><i>decimals by 10, 100 and 1000</i></p> <ul style="list-style-type: none"> - identify factors, including finding all factor pairs of a number, and common factors of two numbers. [5MD-2] <p>Measurement: Area and Perimeter</p> <ul style="list-style-type: none"> - measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <p>Number: Fractions</p> <ul style="list-style-type: none"> - compare and order fractions whose denominators are all multiples 	<p><i>drawing upon known facts</i></p> <ul style="list-style-type: none"> - know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers <p>Number: Fractions</p> <ul style="list-style-type: none"> - subtract fractions with the same denominator and multiples of the same number - recognise mixed numbers and convert to improper fractions and write mathematical statements > 1 as a mixed 	<p>Number: Multiplication and Division</p> <ul style="list-style-type: none"> - multiply numbers up to 4 digits by a one-digit number using a formal written method, including long multiplication for two-digit numbers - establish whether a number up to 100 is prime and recall prime numbers up to 19 <p>Measurement: Area and Perimeter</p> <ul style="list-style-type: none"> - estimate the area of irregular shapes 	<p><i>of short division and interpret remainders appropriately for the context</i> [5MD-4]</p> <ul style="list-style-type: none"> - recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) <p>Number: Fractions</p> <ul style="list-style-type: none"> - multiply proper fractions by whole numbers, supported by materials and diagrams <p>Geometry: Properties of Shape</p> <ul style="list-style-type: none"> - measure angles in degrees ($^\circ$) 	<ul style="list-style-type: none"> - multiply mixed numbers by whole numbers, supported by materials and diagrams <p>Number: Decimals and Percentages</p> <ul style="list-style-type: none"> - round decimals with two decimal places to the nearest whole number and to one decimal place <p>Geometry: Position and Direction</p> <ul style="list-style-type: none"> - identify, describe and represent the position of a shape following a reflection, using the appropriate language, and know that the
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<p>confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.</p> <p><u>Rapid Recall</u></p> <ul style="list-style-type: none"> MG - 5NF-1 – Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. MG – 5F-1 – Find non-unit fractions of quantities 	<p><i>tenths and hundredths [5F-2]</i></p> <p>Number: Decimals and Percentages</p> <ul style="list-style-type: none"> Read and write numbers with up to three decimal places [5NPV-2] recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents [5NPV-1] <p>Geometry: Properties of Shape</p> <ul style="list-style-type: none"> identify 3-D shapes, including cubes and other cuboids, from 2-D representations 	<p><i>of the same number</i></p> <ul style="list-style-type: none"> add fractions with the same denominator and multiples of the same number <p>Number: Decimals and Percentages</p> <ul style="list-style-type: none"> order and compare numbers with up to three decimal places <p>Geometry: Properties of Shape</p> <ul style="list-style-type: none"> identify: <ul style="list-style-type: none"> -angles at a point and one whole turn (total 360°) -angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) 	<p><i>number (e.g. $\frac{2}{5}$ + $\frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$)</i></p> <p>Number: Decimals and Percentages</p> <ul style="list-style-type: none"> read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$) [5NPV-5], [5F-3] <p>Geometry: Properties of Shape</p> <ul style="list-style-type: none"> distinguish between regular and irregular polygons based on reasoning about equal sides and angles use the properties of rectangles to deduce related facts and find 	<p>Number: Fractions</p> <ul style="list-style-type: none"> Recognise improper fractions and convert to mixed numbers and write mathematical statements > 1 as a mixed number (e.g. $\frac{2}{5}$ + $\frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$) <p>Number: Decimals and Percentages</p> <p>recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator 100 as a decimal fraction</p>	<ul style="list-style-type: none"> draw given angles in degrees ($^\circ$) <p>Geometry: Position and Direction</p> <ul style="list-style-type: none"> identify, describe and represent the position of a shape following a translation, using the appropriate language, and know that the shape has not changed <p>Measurement: Converting Units</p> <ul style="list-style-type: none"> solve problems involving converting between units of time convert between different units of metric measure 	<p><i>shape has not changed</i></p> <p>Measurement: Converting Units</p> <ul style="list-style-type: none"> convert between different units of metric measure (e.g. gram and kilogram; litre and millilitre) understand and use equivalences between metric units and common imperial units such as inches, pounds and pints [5NPV-5] <p>Measurement: Volume</p> <ul style="list-style-type: none"> estimate volume and capacity (e.g. using water)
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	<ul style="list-style-type: none"> - <i>know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles [5G-1]</i> <p>Measurement: Area and Perimeter</p> <ul style="list-style-type: none"> - <i>calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm²) and square metres (m²) [5G-2]</i> 	<p><i>-other multiples of 90°</i></p>	<p><i>missing lengths and angles</i></p>	<p>Measurement: Volume</p> <ul style="list-style-type: none"> - <i>estimate volume using 1 cm³ blocks to build cubes and cuboids</i> 	<p><i>(e.g. kilometre and metre; centimetre and metre; centimetre and millimetre)</i></p>	
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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6						
	Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8 Week 9 Week 10 Week 11 Week 12											
Autumn	Number: Place Value			Number: Addition and Subtraction		Statistics		Number: Multiplication and Division		Measurement: Perimeter and Area		Consolidation
Spring	Number: Multiplication and Division			Number: Fractions						Number: Decimals and Percentages		Consolidation
Summer	Number: Decimals				Geometry: Properties of Shape		Geometry: Position and Direction	Measurement: Converting Units		Measurement: Volume	Consolidation	

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