



LOWER KS2 LONG TERM MATHS PLAN 2019-2020

From the National Curriculum

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.

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 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. By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

Maths at Westbury Park

We aim to inspire children to develop a love for maths and, as a staff team, we work closely together to promote risk taking, curiosity and enthusiasm for maths from Reception to year 6- and beyond!

We believe that there are fundamental mathematical skills that will provide children with a foundation for their learning: times tables, number bonds and formal written methods. These areas of maths are intertwined within most of our lessons, through chanting, tests, discrete teaching and reminders around the classroom. We aim to teach mental and written methods consistently across the school; these are detailed in our calculation policies.

Westbury Park is part of a Mastery Maths Hub, which gives us the opportunity to work closely with other local schools to enhance our maths teaching, share good practice and ultimately give the children the best possible maths education. Embracing the concept of mastery means that we encourage children to 'learn without limits'; we want them to feel supported and challenged to take the next steps within maths all the while knowing that they are learning at their pace. We encourage children to work together to reason and justify and to link their learning to life outside of the classroom. For those children who have a natural love for the subject, mastery helps to inspire them to look more deeply at their learning, to ask questions, to find alternatives and to use their skills to challenge what they think they know!

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
YEAR 3	Number: Place value (3 weeks) Number: Addition and subtraction (3 weeks)	Number: Addition and subtraction (2 weeks) Number: Multiplication and division (3 weeks)	Number: Multiplication and division (3 weeks) Measure: Money (2 weeks) Statistics (1 week)	Measure: Length and perimeter (3 weeks) Number: Fractions (2 weeks)	Number: fractions (3 weeks) Measure: Time (3 weeks)	Geometry: Properties of shape (2 weeks) Measure: Mass and Capacity (3 weeks)
YEAR 4	Number: Place value (4 weeks) Number: Addition and subtraction (2 weeks)	Number: Addition and subtraction (1 week) Measure: Length and perimeter (1 week) Number: Multiplication and division (3 weeks)	Number: Multiplication and division (3 weeks) Measure: Area (1 week) Number: Fractions (2 weeks)	Number: Fractions (2 weeks) Number: Decimals (3 weeks)	Number: Decimals (2 weeks) Measure: Money (2 weeks) Measure: Time (1 week) Statistics (1 week)	Statistics (1 week) Geometry: Properties of shapes (3 weeks) Geometry: Position and direction (1 week)



KS1 EXPECTATIONS AND STRANDS		YEAR 1	YEAR 2
Place value	Counting	<ul style="list-style-type: none"> Count from zero in multiples of 4, 8, 50 and 100, find 10 or 100 more or less than a given number 	<ul style="list-style-type: none"> Count in multiples of 6,7,9, 25 and 1000 Count backwards through zero to include negative numbers
	Representing number	<ul style="list-style-type: none"> Identify, represent and estimate numbers using different representations Read and write numbers up to 1000 in numerals and in words 	<ul style="list-style-type: none"> Identify, represent and estimate numbers using different representations Read Roman numerals up to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value
	Using and comparing number	<ul style="list-style-type: none"> Recognise the place value of each digit in a 3 digit number (hundreds, tens, ones) Compare and order numbers up to 1000 	<ul style="list-style-type: none"> Find 1000 more or less than a given number Recognise the place value of each digit in a four- digit number (thousands, hundreds, tens and ones) Order and compare numbers beyond 1000
	Problem solving and rounding	<ul style="list-style-type: none"> Solve number problems and practical problems involving these ideas 	<ul style="list-style-type: none"> Round any number to the nearest 10, 100 or 1000 Solve number problems and practical problems that involve all of the above and with increasingly large positive numbers
Addition and Subtraction	Recall, representation and use	<ul style="list-style-type: none"> Estimate the answer to a calculation and use inverse operations to check answers 	<ul style="list-style-type: none"> Estimate and use inverse operations to check answers to a calculation
	Calculations	<ul style="list-style-type: none"> Add and subtract numbers mentally including: <ul style="list-style-type: none"> 3 digit number and ones 3 digit number and tens 3 digit number and hundreds Add and subtract numbers with up to three digits using formal written methods of columnar addition and subtraction 	<ul style="list-style-type: none"> Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
	Problem solving	<ul style="list-style-type: none"> Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction 	<ul style="list-style-type: none"> Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why
Multiplication and Division	Recall, represent, use	<ul style="list-style-type: none"> Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 	<ul style="list-style-type: none"> Recall multiplication and division facts for multiplication tables up to 12 x 12 Use place value, known and derived facts to multiply and divide mentally including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers Recognise and use factor pairs and commutativity in mental calculations
	Calculations	<ul style="list-style-type: none"> Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2 digit numbers times one digit numbers using mental and progressing to formal written methods 	<ul style="list-style-type: none"> multiply two digit and three digit numbers by a one digit number using formal written layout
	Problem solving	<ul style="list-style-type: none"> Solve problems including missing number problems involving multiplication and division including positive integer scaling problems and correspondence problems in which n objects are connected to m objects 	<ul style="list-style-type: none"> Solve problems involving multiplying and adding, including using distributive law, to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects
	Combined operations		



Fractions	Recognise and write	<ul style="list-style-type: none"> Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one digit numbers or quantities by 10 Recognise, find and write fractions of a discrete set of objects: unit fractions and non unit fractions with small denominators Recognise and use fractions as numbers: unit fractions and non unit fractions with small denominators 	<ul style="list-style-type: none"> Count up and down in hundredths; recognise that hundredths arise from dividing an object by one hundred and dividing tenths by ten
	Compare	<ul style="list-style-type: none"> Recognise and show- using diagrams- equivalent fractions with small denominators Compare and order unit fractions and fractions with the same denominators 	<ul style="list-style-type: none"> Recognise and show, using diagrams, families of common equivalent fractions
	Calculations	<ul style="list-style-type: none"> Add and subtract fractions with the same denominator within one whole 	<ul style="list-style-type: none"> Add and subtract fractions with the same denominator
	Problem solving	<ul style="list-style-type: none"> Solve problems that involve all of the above 	<ul style="list-style-type: none"> Solve problems involving increasingly harder fractions to calculate quantities and fractions to divide quantities, including non unit fractions where the answer is a whole number
Decimals	Recognise and write		<ul style="list-style-type: none"> Recognise and write decimal equivalents of any number of tenths or hundredths Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
	Compare		<ul style="list-style-type: none"> Round decimals with one decimal place to the nearest whole number Compare numbers with the same number of decimal places up to two decimal places
	Calculations		<ul style="list-style-type: none"> Find the effect of dividing a one or two digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
	Problem solving		
Fractions, decimals and percentages			<ul style="list-style-type: none"> Solve simple measure and money problems involving fractions and decimals to two dp
Ratio and Proportion			
Algebra		(From addition and subtraction- solve missing number problems)	



Measurement	Using measures	<ul style="list-style-type: none"> Measure, compare, add and subtract lengths (m, cm,mm) mass (kg, g) and volume (l, ml) 	<ul style="list-style-type: none"> Convert between different units of measure (km to m, hr to mins) Estimate, compare and calculate different measures
	Money	<ul style="list-style-type: none"> Add and subtract amounts of money to give change, using both £ and p in practical contexts 	<ul style="list-style-type: none"> Estimate, compare and calculate different measures, including money in pounds and pence
	Time	<ul style="list-style-type: none"> Tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12 hour and 24 hour clocks Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours, use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month, year and leap year Compare durations of events 	<ul style="list-style-type: none"> Read, write and convert time between analogue and digital 12 and 24 hour clocks Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days
	Perimeter, area & volume	<ul style="list-style-type: none"> Measure the perimeter of simple 2-D shapes 	<ul style="list-style-type: none"> Measure and calculate the perimeter of a rectilinear figure in cm and m Find the area of rectilinear shapes by counting squares

Geometry	2-D shapes	<ul style="list-style-type: none"> Draw 2-D shapes 	<ul style="list-style-type: none"> Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes Identify lines of symmetry in 2-D shapes presented in different orientations
	3-D shapes	<ul style="list-style-type: none"> Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them 	
	Angles and lines	<ul style="list-style-type: none"> Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle Identify horizontal and vertical lines and pairs of perpendicular and parallel lines 	<ul style="list-style-type: none"> Identify acute and obtuse angles and compare and order angles up to two right angles by size Identify lines of symmetry in 2 D shapes presented in different orientations Complete a simple symmetric figure with respect to a specific line of symmetry
	Position and Direction		<ul style="list-style-type: none"> Describe position on a 2D grid as coordinates in the first quadrant Describe movements between positions as translations of a given unit to the left/right and up/down Plot specified points and draw sides to complete a given polygon

Statistics	Present and Interpret	<ul style="list-style-type: none"> Interpret and present data using bar charts, pictograms and tables 	<ul style="list-style-type: none"> Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
	Problem solving	<ul style="list-style-type: none"> Solve one step and two step questions using information presented in scaled bar charts and pictograms and tables 	<ul style="list-style-type: none"> Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs