



Ashdene Primary School – Maths Curriculum

Purpose of study	Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.
Aims	<ul style="list-style-type: none"> • become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately • reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language • can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.
Maths at Ashdene	At Ashdene in every maths lesson we aim to develop children's reasoning and problem solving. Furthermore, children develop their mathematical understanding through the use of concrete, pictorial and abstract resourcing which are made available to all children in every lesson. We aim to revisit and review mathematical concepts and make links between them in order to ensure children have a deeper understanding of the maths curriculum.

Year 5

	Week	Mental Maths	Maths Curriculum
HT1	1	Times tables facts up to 12 x 12	<p>Number: Place Value</p> <ul style="list-style-type: none"> • Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit including decimals up to three decimal places. • Read, write, order and compare numbers with up to three decimal places. • Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. • Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 and decimal numbers up to 2 decimal places • Deal confidently with all numbers up to 1,000,000 and apply this knowledge to scientific, historical and geographical learning.
	2	<p>MA6: Number Bonds</p> <p>£4.56 + £3.27 = £7.83</p> <p>£6.00 - £3.27 = £2.73</p>	
	3	<p>MA2: Round & Adjust</p> <p>4645 + 1996 = 6641</p> <p>4645 + 2000 - 4 = 6641</p> <p>6645 - 4 = 6641</p>	

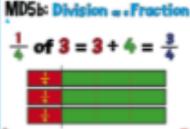
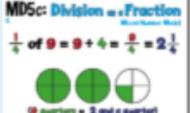


	4		<ul style="list-style-type: none"> To be confident when it comes to working across zero for positive and negative numbers to work out time, eg, BC and AD in history.
	5		<p>Retrieval Practice looking at place value of numbers up to 1 million before starting addition and subtraction</p> <p>Number: Addition and Subtraction</p> <ul style="list-style-type: none"> Add and subtract numbers mentally, using and discussing a range of strategies, with increasingly large numbers. Add and subtract whole numbers with more than 4 digits, including using formal written method. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Consistently use rounding as a strategy for assessing quickly what the approximate answer should be before calculating.
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	8	Retrieval Practice across HT1	
	Week	Mental Maths	Maths Curriculum
HT2	1	Times tables facts up to 12 x 12	<p>Retrieval Practice looking at Place Value before starting multiplication and division</p> <p>Number: Multiplication and Division</p> <ul style="list-style-type: none"> Multiply and divide numbers mentally drawing upon known facts. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. Consistently use rounding as a strategy for assessing quickly what the approximate answer should be before calculating.
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	7	Retrieval Practice across HT2	<p style="text-align: center;">Retrieval Practice (Place Value/ Addition/ Subtraction/ Multiplication/ Division/ Measures)</p>
	Week	Mental Maths	Maths Curriculum
HT3	1		<p style="text-align: center;">Retrieval Practice looking at Place Value including decimals/ Multiplication/ Division before starting Fractions</p>
	2		<p style="text-align: center;">Number: Fractions</p> <ul style="list-style-type: none"> Compare and order fractions whose denominators are all multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.



3		<ul style="list-style-type: none"> • Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $5\ 2 + 5\ 4 = 5\ 6 = 15\ 1$] • Add and subtract fractions with the same denominator and denominators that are multiples of the same number • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$]. • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • 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, and as a decimal. •
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6	Retrieval Practice across HT3	<p style="text-align: center;">Retrieval Practice (Place Value/ Addition/ Subtraction/ Multiplication/ Division/ Fractions/ Percentages/ Decimals)</p>



		Week	Mental Maths	Maths Curriculum
HT4	1			<p>Retrieval Practice looking at Place Value including decimals/ Fractions before starting Shape</p> <p style="text-align: center;"><u>Shape</u></p> <ul style="list-style-type: none"> Use the properties of rectangles to deduce related facts and find missing lengths and angles Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Know angles are measured in degrees Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and half a turn (total 180o) and other multiples of 90o Estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (o).
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	3			<p style="text-align: center;"><u>Position and Direction</u></p> <ul style="list-style-type: none"> Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. Recognise and use reflection and translation in a variety of diagrams, including continuing to use a 2-D grid and coordinates in the first quadrant.
	4			<p style="text-align: center;"><u>Statistics</u></p> <ul style="list-style-type: none"> Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret information in tables, including timetables. Confidentially collect data on a personal project and present information in formats of my choosing, e.g., charts, graphs or tables.
	5			<p style="text-align: center;"><u>Number: Addition and Subtraction</u></p> <ul style="list-style-type: none"> Add and subtract whole numbers with more than 4 digits, including using formal written methods. Consistently use rounding as a strategy for assessing quickly what the approximate answer should be before calculating. <p style="text-align: center;"><u>Number: Place Value</u></p>



			<ul style="list-style-type: none"> Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
	6	Retrieval Practice across HT4	<p>Retrieval Practice (Place Value/ Addition/ Subtraction/ Multiplication/ Division/ Fractions/ Percentages/ Decimals/ Shape/ Position and Direction/ Statistics)</p>
HT5	Week	Mental Maths	Maths Curriculum
	1		<p>Retrieval Practice looking at Place Value/ Addition/ Subtraction before starting Multiplication and Division</p> <p>Number: Multiplication and Division</p> <ul style="list-style-type: none"> Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19 Recognise and use square numbers and cube numbers, and the notation for squared and cubed. Consistently use rounding as a strategy for assessing quickly what the approximate answer should be before calculating.
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	3		<p>Number: Fractions</p> <ul style="list-style-type: none"> Compare and order fractions whose denominators are all multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $5 \frac{2}{4} + 5 \frac{4}{4} = 5 \frac{6}{4} = 15 \frac{1}{4}$] Add and subtract fractions with the same denominator and denominators that are multiples of the same number Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$]. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
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3	MMS5: Round & Adjust $198 \times 4 = 792$ $(200 \times 4) - (2 \times 4)$ $800 - 8 = 792$	Retrieval Practice/ Assessment <i>(Place Value/ Addition/ Subtraction/ Multiplication/ Division/ Fractions/ Percentages/ Decimals/ Shape/ Position and Direction/ Statistics)</i>
4	MD5: Division as a Fraction $\frac{1}{2}$ of 17 = $17 \div 2 = 8 \frac{1}{2}$ $\frac{1}{2}$ of 17 = 8 whole and 1 whole	Revisit/ Review/ Reflect
5	MS6: Number Facts $1424 - 724 = 700$ $724 + 700 = 1424$	
6	MA4b: Counting On $7583 + 5000 = 12583$ +5000 7583 12583	
7	Retrieval Practice across HT6	