

HBA Maths Long Term Map – KS2

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 3	<p>Number – Place Value -count from 0 in multiples of 4, 8, 50 and 100; -find 10 or 100 more or less than a given number. - compare and order numbers up to 1000 - identify, represent and estimate numbers using different</p> <p>Number – Addition and Subtraction Add and subtract numbers mentally, including: -a three-digit number and ones. -a three-digit number and tens. -a three-digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p>	<p>Number – Addition and Subtraction -estimate the answer to a calculation and use inverse operations to check answers. -solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p> <p>Number – Multiplication and Division -recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. - write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.</p>	<p>Number – Multiplication and Division -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. -embed use of formal written methods.</p> <p>Measurement – Length, Perimeter and Area -measure, compare, add and subtract: lengths (m/cm/mm); -measure the perimeter of simple 2-D shapes.</p> <p>Number – Fractions -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.</p>	<p>Number – Fractions -recognise and show, using diagrams, equivalent fractions with small denominators. -add and subtract fractions with the same denominator within one whole. -compare and order unit fractions, and fractions with the same denominators. -solve problems involving fractions.</p> <p>Measurement – Mass and Capacity -measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml)</p> <p><i>Revisiting concepts, consolidating learning and more practise at applying knowledge and skills learnt</i></p>	<p>Number – Decimals -recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. -count up and down in tenths. -add and subtract amounts of money to give change, using both £ and p in practical contexts.</p> <p>Measurement – Time -compare durations of events, for example to calculate the time taken by particular events or tasks. -estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight. -tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. -know the number of seconds in a minute and the number of days in each month, year and leap year.</p>	<p>Statistics – Interpreting, Constructing and Presenting Data -interpret and present data using bar charts, pictograms and tables. -solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.</p> <p>Geometry – Properties of Shape -draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. -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. <i>Revisiting concepts, consolidating learning and more practise at applying knowledge and skills learnt</i></p>

Year 4	<p>Number – Place Value</p> <ul style="list-style-type: none"> -count in multiples of 6, 7, 9, 25 and 1000. -find 1000 more or less than a given number. -order and compare numbers beyond 1000. -count backwards through zero to include negative numbers. -round any number to the nearest 10, 100 or 1000. -recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). -read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. <p>Number – Addition and Subtraction</p> <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. 	<p>Number – Addition and Subtraction</p> <ul style="list-style-type: none"> -estimate and use inverse operations to check answers to a calculation. -solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. <p>Number – Multiplication and Division</p> <ul style="list-style-type: none"> -recall multiplication and division facts for multiplication tables up to 12×12. -use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. -recognise and use factor pairs and commutativity in mental calculations. -multiply two-digit and three-digit numbers by a one-digit number using formal written layout. 	<p>Number – Multiplication and Division</p> <ul style="list-style-type: none"> -solve problems involving multiplying and adding, including using the 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. <p>Measurement – Length, Perimeter and Area</p> <ul style="list-style-type: none"> -measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. -find the area of rectilinear shapes by counting squares. <p>Number – Fractions</p> <ul style="list-style-type: none"> -recognise and show, using diagrams, families of common equivalent fractions. -add and subtract - fractions with the same denominator. -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. 	<p>Number – Fractions</p> <ul style="list-style-type: none"> -count up and down in hundredths. -recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. <p>Number – Decimals</p> <ul style="list-style-type: none"> -compare numbers with the same number of decimal places up to two decimal places. -round decimals with one decimal place to the nearest whole number. -recognise and write decimal equivalents of any number of tenths or hundredths. -recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ <p><i>Revisiting concepts, consolidating learning and more practise at applying knowledge and skills learnt</i></p>	<p>Number – Decimals</p> <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. -solve simple measure and money problems involving fractions and decimals to two decimal places. -estimate, compare and calculate different measures, including money in pounds and pence. <p>Measurement – Time</p> <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. <p>Statistics – Interpreting, Constructing and Presenting Data</p> <ul style="list-style-type: none"> -interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. -solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. 	<p>Geometry – Properties of Shape</p> <ul style="list-style-type: none"> -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. -compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. -identify acute and obtuse angles and compare and order angles up to two right angles by size. <p>Geometry – Position and Direction</p> <ul style="list-style-type: none"> -describe positions on a 2-D 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. <p><i>Revisiting concepts, consolidating learning and more practise at applying knowledge and skills learnt</i></p>
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Year 5	<p>Number – Place Value -count forwards or backwards in steps of powers of 10 for any given number up to 1000 000. -read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit. -interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. -read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</p> <p>Number – Addition and Subtraction -add and subtract numbers mentally with increasingly large numbers. -add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). -solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p>	<p>Statistics – Interpreting, Constructing and Presenting Data -complete, read and interpret information in tables, including timetables. -solve comparison, sum and difference problems using information presented in a line graph.</p> <p>Number – Multiplication and Division -multiply and divide numbers mentally drawing upon known facts. -multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. -identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>Measurement – Length, Perimeter and Area -measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. -calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes.</p>	<p>Number – Multiplication and Division -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. -recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) -solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</p> <p>Number – Fractions -compare and order fractions whose denominators are all multiples of the same number. -add and subtract fractions with the same denominator and multiples of the same number.</p>	<p>Number – Fractions -recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$) -multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</p> <p>Number – Decimals and Percentages -read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$) -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 as a decimal fraction. <i>Revisiting concepts, consolidating learning and more practise at applying knowledge and skills learnt</i></p>	<p>Number – Decimals -recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. -read, write, order and compare numbers with up to three decimal places. -read, write, order and compare numbers with up to three decimal places. -round decimals with two decimal places to the nearest whole number and to one decimal place. -solve problems involving numbers up to three decimal places. -solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those with a denominator of a multiple of 10 or 25.</p> <p>Geometry – Properties of Shape -draw given angles, and measure them in degrees °. -know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. -identify 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°) and other multiples of 90° -use the properties of rectangles to deduce related facts and find missing lengths and angles.</p>	<p>Geometry – Properties of Shape -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 missing lengths and angles. -identify 3-D shapes, including cubes and other cuboids, from 2-D representations.</p> <p>Geometry – Position and Direction -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.</p> <p>Measurement – Converting Units and Volume -solve problems involving converting between units of time. -convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre). -understand and use equivalences between metric units and common imperial units such as inches, pounds and pints. -estimate volume (e.g. using 1 cm³ blocks to build cubes and cuboids) and capacity (e.g. using water).</p>
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Year 6	<p>Number – Place Value -read, write, order and compare numbers up to 10 000000 and determine the value of each digit. -use negative numbers in context, and calculate intervals across zero. -round any whole number to a required degree of accuracy.</p> <p>Number – Addition, Subtraction, Multiplication and Division -perform mental calculations, including with mixed operations and large numbers. -solve problems involving addition, subtraction, multiplication and division. -multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. -divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.</p>	<p>Number – Addition, Subtraction, Multiplication and Division -identify common factors, common multiples and prime numbers. -use their knowledge of the order of operations to carry out calculations involving the four operations.</p> <p>Number – Fractions -compare and order fractions, including fractions >1 -use common factors to simplify fractions; use common multiples to express fractions in the same denomination. -add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. -multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) -multiply one-digit numbers with up to two decimal places by whole numbers. -divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$)</p> <p>Geometry – Position and Direction -describe positions on the full coordinate grid (all four quadrants)</p>	<p>Number – Decimals -identify the value of each digit in numbers given to three decimal places. -associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)</p> <p>Number – Percentages -recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. -solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.</p> <p>Number – Algebra -express missing number problems algebraically. -find pairs of numbers that satisfy number sentences involving two unknowns. -enumerate all possibilities of combinations of two variables. -use simple formulae. -generate and describe linear number sequences.</p>	<p>Measurement – Converting Units -solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. -solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. -convert between miles and kilometres.</p> <p>Measurement – Perimeter, Area and Volume. -calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3. -recognise that shapes with the same areas can have different perimeters and vice versa. -calculate the area of parallelograms and triangles. -recognise when it is possible to use formulae for area</p>	<p>Number – Ratio -solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. -solve problems involving similar shapes where the scale factor is known or can be found. -solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p> <p>Statistics – Interpreting, Constructing and Presenting Data -interpret and construct pie charts and line graphs and use these to solve problems. -calculate and interpret the mean as an average.</p> <p>Geometry – Properties of Shape. -recognise, describe and build simple 3-D shapes, including making nets. -draw 2-D shapes using given dimensions and angles. -compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.</p>	<p>Geometry – Properties of Shape. -illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. -recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</p> <p><i>Revisiting concepts, consolidating learning and more practise at applying knowledge and skills learnt</i></p>
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		-draw and translate simple shapes on the coordinate plane, and reflect them in the axes.		and volume of shapes. <i>Revisiting concepts, consolidating learning and more practise at applying knowledge and skills learnt</i>		
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