



Halton Community Combined School

Skills Progression Map

Curriculum Area: Maths

Terms, Topics,	Poppies Bluebells Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Key Stage 1 National Curriculum Expectations		Key Stage 2 National Curriculum Expectations			
		Pupils should be taught to:		Pupils should be taught to:			
	Poppies Bluebells Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting	Recite numbers past 5. Say 1 number name for each item in order: 1,2,3,4,& 5 Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). Count objects, actions and sounds. Count beyond ten.	Count to and across 1 and 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of 2, 5 & 10	Count in steps of 2, 3 and 5 from , and in tens from any number. forward and backward.	Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Count in multiples of 6,7,9, 25 and 1,000 Count backwards through 0 to include negative numbers	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 Count forwards and backwards with positive and negative whole numbers, including through zero	

	Verbally count beyond 20, recognising the pattern of the counting system.						
Represent	Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). Show 'finger numbers' up to 5. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Experiment with their own symbols and marks as well as numerals. Subitise. Link the number symbol (numeral) with its cardinal number value. Subitise (recognising quantities without counting) up to 5.	Identify and represent numbers using objects and pictorial representation Read and write numbers to 100 in numerals Read and write numbers from 1 to 20 in numerals and words	Read and write numbers to at least 100 in numerals and words Identify, represent and estimate numbers using different representations, including the number line	Identify, represent and estimate numbers using different representations Read and write numbers up to 1,000 in numerals and words	Identify, represent and estimate numbers using different representations Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value	Read, write and order and compare numbers to at least 1, 000,000 and determine the value of each digit Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	Read, write and order and compare numbers to at least 10, 000,000 and determine the value of each digit
Use place value and compare	Link numerals and amounts: for example, showing the right number of objects to match the	Given a number, identify one more or one less	Recognise the place value of each digit in a 2 digit number (tens and ones) Compare and order numbers from 0 up to	Recognise the place value of each digit in a 3 digit number	Find 1,000 more or less than a given number Recognise the place value of each digit in a 4 digit number	(read, write) order and compare numbers to at least 1,000,000 and determine the value of each digit	(read, write) order and compare numbers to at least 10,000,000 and determine the value of each digit

	numeral, up to 5. Experiment with their own symbols and marks as well as numerals. Compare quantities using language: 'more than', 'fewer than'. Link the number symbol (numeral) with its cardinal number value. Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Have a deep understanding of numbers to 10, including the composition of each number.		100; use <, > and = signs	(hundreds, tens and ones) Compare and order numbers up to 1,000	(thousands, hundreds, tens and ones) Order and compare numbers beyond 1,000		
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Problems and Rounding	Solve real world mathematical problems with numbers up to 5.		Use place value and number facts to solve problems	Solve number problems and practical problems involving these ideas	Round any number to the nearest 10, 100 or 1,000 Solve number and practical problems that involve all of the above and with increasingly large positive numbers	Interpret negative numbers in context Round any number up to 1, 000, 000 to the nearest 10, 100, 1,000, 10,000, and 100,000 Solve number problems and practical problems that involve all of the above	Round any whole number to a required degree of accuracy Use negative numbers in context, and calculate intervals across zero Solve number problems that involve all of the above
Additional and Subtraction: Recall, represent and use	Automatically recall number bonds for numbers 0-5 and some to 10. Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.	Read, write and interpret mathematical statements involving addition, subtraction and equals signs Represent and use number bonds and related subtraction facts within 20	Recall and use addition and subtraction facts to 20 fluently, derive and use related facts up to 100 Show that addition of 2 numbers can be done in any order (commutative) and subtraction of one number from another cannot Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	Estimate the answer to a calculation and use the inverse operations to check answers	Estimate and use inverse operations to check answers to a calculation	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	

Addition and Subtraction : calculations		Add and subtract 1 and 2 digit numbers to 20 including 0	Add and subtract numbers using concrete objects, pictorial representations and mentally including: 2 digit number and 1s A 2 digit number and 10s 2 two digit numbers Adding 3 one digit numbers	Add and subtract numbers mentally including A 3 digit number and ones A 3 digit number and 10s A 3 digit number and 100s Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	Add and subtract whole numbers with more than 4 digits, including formal written methods (columnar addition and subtraction) Add and subtract numbers mentally with increasingly larger numbers	Perform mental calculations, including with mixed number operations and large numbers Use their knowledge of the order of operations to carry out calculations involving the 4 operations
Addition and Subtractions: Solve problems		Solve 1 step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = XX - 9$	Solve problems with addition and subtraction Using concrete and pictorial representations, including those involving numbers, quantities and measures Apply their increasing knowledge of mental and written methods	Solve number problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	Solve addition and subtraction 2 step problems in contexts, deciding which operations to use and why	Solve addition and subtraction 2 step problems in contexts, deciding which operations to use and why Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why

Multiplication and Division : recall, represent and use			Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers Show that multiplication of 2 numbers can be done in any order (commutative) and division of one number of another	Recall and use multiplication and division facts for the 3, 4 & 8 times tables	Recall multiplication and division facts for the multiplication facts up to 12 x 12 Use place value, known and derived facts to multiply and divide mentally including: multiplying by 1 and 0, dividing by 1, multiplying 3 numbers together Recognise and use factor pairs and commutativity in mental calculations	Identify multiples and factors, including all factor pairs of a number, and common factors of 2 numbers Know and use the vocabulary of prime numbers, composite (non prime) 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	Identify common factors, common multiples and prime numbers Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
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Multiplication & Division: Calculations			Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division and equals signs.	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	Multiply 2 and 3 digit numbers by a 1 digit number using formal layout	Multiply numbers up to 4 digits by a 1 digit or 2 digit number using a formal written method, including long multiplication for 2 digit numbers Multiply and divide numbers mentally drawing upon known facts Divide numbers up to 4 digit numbers by a 1 digit number using the formal written method of short division and interpret the remainders appropriately for the context Multiply and divide whole numbers and those involving decimals by 10, 100 & 1,000	Multiply multi digit numbers up to 4 digits by a 2 digit number using the formal written method of long multiplication Divide numbers up to 4 digits by a 2 digit 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 Divide numbers up to 4 digits by a 2 digit number using the formal written method of short division where appropriate, interpreting remainders according to the context Perform mental calculations, including with mixed operations and large numbers
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Multiplication & Division : Solve problems		Solve step problems involving multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts	Solve problems involving missing number problems, involving multiplication and division, positive integer scale problems and correspondence problems in which n objects are connected to m objects	Solve problems involving multiplying and adding, including the distributive law to multiply 2 digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Solve problems involving multiplication and division, addition and subtraction
Continued operations						Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Use their knowledge of the order of operations to carry out calculations involving the 4 operations
Fractions: Recognise and write		Recognise, find and name a half as one of 2 equal parts of an object, shape or quantity Recognise, find and name a half as one of 2 equal parts of an object, shape or quantity	Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ & $\frac{3}{4}$ of a length, shape, set of objects or quantity	Count up and down in $\frac{1}{10}$ ths, recognise that tenths arise from dividing an object into 10 parts and in dividing 1 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	Count up and down in hundredths: recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10.	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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \text{ \& } \frac{1}{5}$	

Fractions: compare			Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	Recognise and show, using diagrams, equivalent fractions with small denominators Compare and order unit fractions, and fractions with the same denominators	Recognise and show, using diagrams, families of common equivalent fractions	Compare and order fractions whose denominators are all multiples of the same number	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions, including > 1
Fractions: calculations			Write simple fractions for example, $\frac{1}{2}$ of 6 = 3	Add and subtract fractions with the same denominator within one whole (for example $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)	Add and subtract fraction with the same denominator	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	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 (eg $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) Divide proper fractions by whole numbers
Fractions: solve problems				Solve problems that involve all of the above	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					Recognise and write decimal equivalents f any number of tenths or hundredths Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$	Read and write decimal numbers as fractions (eg $0.71 = \frac{71}{100}$) Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	Identify the value of each digit in numbers given to 3 dp

Decimals : compare					Round decimals with 1 dp to the nearest whole number Compare numbers with the same number of dp up to 2 dp	Round decimals with 1 dp to the nearest whole number and to 1 dp Compare numbers with the same number of dp up to 3 dp	
Decimals: calculations & problems					Find the effect of dividing a 1 or 2 digit number by 10 & 100, identifying the value of the digits in the answer as ones, tenths and hundredths	Solve problems involving number up to 3 dp	Multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 dp Multiply 1 digit numbers with up to 2 dp by whole numbers Use written division methods in cases where the answer has up to 2 dp Solve problems which require answers to be rounded to specified degrees of accuracy
Fractions, decimals and percentages					Solve simple measure and money problems involving fractions and decimals to 2 dp	Recognise the % sign and understand that percent relates to number of parts in 100, write %s as a fraction with denominator of 100 and as a decimal Solve problems which require knowing % and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$ & $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	Associate a fraction with division and calculate decimal fraction equivalents (eg 0.375) for a simple fraction (eg $\frac{3}{8}$) Recall and use equivalences between simple fraction, decimals and %, including in different contexts

Ratio & proportion							Solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts Solve problems involving the calculation of % (eg of measures and such as 15% of 360) and the use of % for comparison 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
Algebra		Solve 1 step problems that involve addition and subtraction, using concrete and pictorial representations, and missing number problems such as $7 = ? - 9$	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	Solve problems, including missing number problems			Using simple formulae Generate and describe linear number sequences Express missing number problems algebraically Find pairs of numbers that satisfy an equation with 2 unknowns Enumerate possibilities of combinations of 2 variables

Measurement: Using measures	Make comparisons between objects relating to size, length, weight and capacity. Compare length, weight and capacity.	Compare, describe and solve practical problems for: Lengths and heights (eg long, short, longer, shorter, tall, short, double, half) Mass/weight (eg heavy, light, heavier than, lighter than) Capacity and volume (eg full, empty, more than, less than, half, half full, quarter) Time (eg quicker, slower, earlier, later) Measure and begin to record the following: Lengths & heights Mass/weight Capacity & volume Time (hours, mins & secs)	Choose and use appropriate standard units to estimate and measure length, height in any direction (m & cm), mass (kg & g), temperature (°C) capacity (ml & l) to the nearest unit, using rulers, scales, thermometers and measuring vessels Compare and order lengths, mass, volume/capacity and record the results using > < and =	Measure and compare, add and subtract lengths (m, cm, mm); mass (kg & g); volume / capacity (l & ml)	Convert between different units of measure (eg km to metre, hour to minute) Estimate, compare and calculate different measures	Convert different units of metric measure (eg km & m; cm & m; cm & mm; g & kg; l & ml) Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints Use all four operations to solve problems involving measure (eg length, mass, volume, money) using decimal notation, including scaling	Solve problems involving the calculation and conversion of units of measure using decimal notation up to 3 dp where appropriate Use, read and write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to 3 dp Convert between miles and km
Measurement: money		Recognise and know the value of different denominations of coins and notes	Recognise and use symbols for pounds and pence; combine amounts to make a particular value Find different combinations of coins that equal the same amounts of money Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Add and subtract amounts of money to give change, using £ and p in practical contexts	Estimate, compare and calculate different measures, including money in pounds and pence	Use all 4 number operations to solve problems involving measure (eg money)	

Measurement: time	Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...'	Sequence events in chronological order using language (eg before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) Recognise and use language relating to dates, including days of the week, weeks, months and years Tell the time to the hour and half past the hour and draw the hands on a clock face to show the time	Compare and sequence intervals of time Tell and write the time to 5 mins, including $\frac{1}{4}$ past/to the hour and draw the hands on a clock to show these times Know the number of minutes in an hour and the number of hours in a day	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12 & 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 (eg to calculate time taken by particular events or tasks)	Read, write and convert time between analogue and digital 12 & 24 hour clocks Solve problems involving converting from hours to minutes, mins to seconds, years to months, week to days	Solve problems involving converting between units of time	Use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit and vice versa
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Measurement: perimeter, area & volume				Measure the perimeter of simple 2D shapes	Measure and calculate the perimeter of a rectilinear figure (including squares) in cm & m Find the area of rectilinear shapes by counting squares	Measure and calculate the perimeter of composite rectilinear shapes in cm & m Calculate and compare the area of rectangles (including squares) and including using standard units, square cm and square metres and estimate the area of irregular shapes. Estimate volume (eg using 1cm³ blocks to build cuboids (including cubes) and capacity (eg water)	Recognise that shapes with the same areas can have different perimeters and vice versa Recognise when it's possible to use formulae for area and the volume of shapes Calculate the area of parallelograms and triangles Calculate, estimate and compare volume of cubes and cuboids, using standard units including cubic cms, and cubic ms and extending to other units (eg mm³ & km³)
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Geometry – 2D shapes	Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round'. Select shapes appropriately: flat surfaces for a building, a triangular pattern for a roof, etc. Combine shapes to make new ones – an arch, a bigger triangle, etc. Select, rotate and manipulate shapes in order to develop spatial reasoningskills. Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.	Recognise and name common 2D shapes (eg rectangles – including squares – circles and triangles)	Identify and describe the properties of 2d shapes, including the number of sides and line of symmetry in a vertical shape Identify 2d shapes on the surface of 3d shapes (eg a circle on a cylinder and a triangle on a pyramid) Compare and sort common 2d shapes and everyday objects	Draw 2d shapes	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes Identify lines of symmetry in 2d shapes presented in different orientations	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	Draw 2d shapes using given dimensions and angles Compare and classify geometric shapes based on their properties and sizes Illustrate and name parts of a circle, including radius, diameter and circumference and know that the diameter is twice the radius
Geometry – 3d shapes		Recognise and name common 3d shapes (eg cuboids including cubes) pyramids and spheres	Recognise and name common 3d shapes (eg cuboids including cubes) pyramids and spheres Compare and sort common 3d shapes and everyday objects	Using 3d shapes using modelling materials; recognise 3d shapes in different orientations and describe them		Identify 3d shapes, including cubes and other cuboids from 2d representations	Recognise, describe and build simple 3d shapes, including making nets

Geometry – angles and lines				Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that 2 right angles make half a turn, 3 make $\frac{3}{4}$ and 4 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	Identify acute and obtuse angles and compare and order angles up to 2 right angles by size Identify lines of symmetry in 2d shapes presented in different orientations Complete a simple symmetric figure with respect to a specific line of symmetry	Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles Draw given angles and measure them in degrees Identify: angles at a whole point and one whole turn (total 360) Angles at a point on a straight line and $\frac{1}{2}$ a turn (180) Other multiples of 90	Unknown angles in any triangles, quadrilaterals, and regular polygons Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
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Geometry - position and direction	Understand position through words alone – for example, “The bag is under the table,” – with no pointing. Describe a familiar route. Discuss routes and locations, using words like ‘in front of’ and ‘behind’. Patterns : Talk about and identify the patterns around them. For example, stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’, etc. Extend and create ABAB patterns – stick, leaf, stick, leaf Notice and correct an error in a repeating pattern Draw information from a simple map. Patterns: Continue, copy and create repeating	Describe position, direction and movement, including whole, half, quarter and 3 quarter turns	Order and arrange combinations of mathematical objects in patterns and sequences Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ turns – clockwise and anti clockwise		Describe positions 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	Id, 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	Describe positions on the full coordinate grid (all 4 quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axis
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	patterns						
Statistics – present and interpret	Experiment with their own symbols and marks, as well as numerals.		Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	Interpret and present data using bar charts, pictograms and tables	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Complete, read and interpret information in tables, including time tables.	Interpret and construct pie charts and line graphs and use these to solve problems
Statistics – solve problems			Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity Ask and answer questions about totalling and comparing categorical data	Solve 1 step and 2 step problems (eg How many more? And How many fewer?) using information presented in scaled bar charts and pictograms and tables	Solve comparison, sum and difference problems using information presented in bar charts, pictogram, tables and other graphs	Solve comparison, sum & difference problems using information presented in a line graph	Calculate and interpret the mean as an average