Hollywell's Maths Curriculum Roadmap

Number – Number and Place Value

Count → **Represent** → **Use/Compare** → **Problems/Rounding**

YR	Y1	Y2	Y3	Y4	Y5	Y6
- link the number symbol to the cardinal number value - understand when counting, numbers have to be said in a certain order - number name assigned to the final object is the total number of objects - count objects, actions and sounds assigning one number name to each object that is being counted - compare amounts of objects - recognise number of objects without counting (subitise) - count beyond ten, recognising the pattern of the counting system - understand one more/one less and the relationship between consecutive numbers	- identify one more and one less - identify numbers using representations - read and write numbers to 100 - read and write numbers to 20 in words -Count forwards and backwards to 100 Count in multiples of 2s, 5s, and 10s to 100	- solve problems with place value - recognise place value in 2-digit numbers - compare and order numbers to 100 -read and write numbers to 100 in numerals and words - estimate numbers using representations - count in 2s, 3s, 5s from 0 and tens from any number	- solve practical number problems - recognise place value in 3-digit numbers - compare and order numbers to 1000 -read and write numbers to 100 in numerals and words - estimate numbers using representations - count from 0 in 4s, 8s, 50s and 100s. - find 10,100 more or less than a given number	- round any number to nearest 10, 100 or 1000 - solve practical problems involving large numbers - find 1000 more or less than a given number - recognise place value in 4-digit numbers - compare and order numbers beyond 1000 - estimate numbers using representations - read roman numerals to 100 - count in multiples of 6,7,9,25 and 100 - count backwards through 0 to negative numbers	- interpret negative numbers in context - round any number to nearest 10, 100, 100, 10000 and 100000 - solve practical problems involving large numbers - compare and order numbers to 1000000 - read roman numerals to 1000 - count forwards and backwards in power of 10 in numbers up to 1000000 - count forwards and backwards with positive and negative numbers	- round any whole number - use negative numbers in context - solve number and practical problems -read, write, order and compare numbers to 10000000

Number – Addition and Subtraction

Calculations → **Problems**

YR	Y1	Y2	Y3	Y4	Y5	Y6
- have a deep understanding of numbers up to 10, including the composition of each number eg 5+2 =7 - show different ways of making numbers up to 10 using concrete, pictorial and abstract representations - solve real world mathematical problems with numbers up to 5 - to explore and begin to recall number bonds to 10	-add and subtract 1 digit and 2- digit numbers to 20 - solve one-step problems using pictorial representations	-add and subtract numbers using concrete objects and pictorial representations - solve problems with addition and subtraction using pictorial representations and concrete objects	- add and subtract numbers mentally - add and subtract numbers up to 3-digits using formal written methods - solve problems, including missing number problems	- add and subtract numbers with up to 4 digits using formal methods where appropriate - solve addition and subtraction 2-step problems	- add and subtract whole numbers with more than 4 digits - add and subtract numbers mentally with increasingly larger numbers - solve addition and subtraction multi-step problems - solve problems involving addition, subtraction, multiplication and division and a combination of these	- perform mental calculations - use knowledge of the order of operations to carry out calculations including all four operations - solve addition and subtraction multi-step problems in context

Number – Multiplication and Division

Recall/Use → **Calculations** → **Problems** → **Combined**

YR	Y1	Y2	Y3	Y4	Y5	Y6
- recognise and make equal groups of objects eg 3 crackers on each plate - double numbers with visual and concrete representations, knowing that double means 'twice as many' - share quantities of objects between 2 or 3 groups - recognise odd and even numbers when sharing between 2 groups	- solve one-step problems involving multiplication and division, using concrete objects, pictorial representations and arrays	- recall multiplication and division for 2, 5 and 10 - show understanding of commutative principle for multiplication - calculate mathematical statements for multiplication and division - solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods and multiplication and division facts	- recall and use multiplication and division of 3s,4s and 8s - calculate mathematical statements for multiplication and division, including for 2-digit numbers times 1-digit - solve problems including missing number problems, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	- recall and use multiplication and division up to 12 x 12 - use place value, known and derived facts to multiply and divide mentally - recognise and use factor pairs - multiply 2-digit and 3-digit numbers by a 1-digit number - solve problems including using the distributive law, integer scaling problems and harder correspondence problems	- identify multiples and factors, incusing factor pairs and common factors - know and use prime numbers, prime factors and composite numbers - know prime numbers up to 19 - use and recognise square and cube numbers - multiply numbers up to 4-digits by a 1 or 2-digit number - divide numbers up to 4-digits by a 1–digit numbers and interpret remainders - multiply whole numbers by 10, 100 or 1000 - solve problems including using knowledge of factors, multiples, squares and cubes, scaling by simple fractions and simple rates - solve problems involving addition, subtraction, multiplication and division and a combination	- identify common factors, common multiples and prime numbers - use estimation to check answers - multiply multi-digit numbers by 2pdigit numbers - divide 4 digit numbers by 2-digit numbers - perform mental calculations including with mixed operations and large numbers - use knowledge of the order of operations to carry out calculations including the four operations

Number – Algebra and Ratio and Proportion

Algebra **Ratio and Proportion**

YR	Y1	Y2	Y3	Y4	Y5	Y6
	- solve one-step problems involving addition and subtraction	- recognise and use inverse relationships	- solve problems including missing numbers			- use simple formulae - describe number sequences - express missing numbers using algebra - satisfy an equation with 2 unknowns - solve problems involving relative sizes - solve problems involving percentages - solve problems involving scale factors - solve problems involving unequal grouping and sharing using knowledge of fractions

Number – Fractions, Decimals and Percentages

Recognise and Write → **Compare** → **Calculations** → **Solve Problems** → **Decimals: Recognise, write, compare**

YR	Y1	Y2	Y3	Y4	Y5	Y6
	- recognise, find and name a half as one of two equal parts of object, shape or quantity - recognise, find and name a quarter as one of four equal parts of object, shape or quantity	- recognise, find, name and write fractions ½ ¼ $\frac{2}{4}$ ¾ of a length, shape, set of objects or quantity - recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ -write simple fractions for example ½ of 6 = 3	- count up and down in tenths; tenths arise from dividing an object or 1-digit numbers into 10 equal parts - recognise, find and write fractions of a discrete set of objects (unit fractions and non-unit fractions) - recognise and use fractions as numbers - recognise and show equivalent fractions - compare and order unit fractions and fractions with same denominators - add and subtract fractions with same denominator within a whole - solve problems that involve all the above	- count up and down in hundredths - - recognise and show families of common equivalent fractions - add and subtract fractions with the same denominator - solve problems involving increasingly harder fractions - recognise and write decimal equivalent of any number of tenths or hundredths - recognise and write decimal equivalents to ¼, ½, ¾ - round decimals with one decimal place to nearest whole number - compare numbers with same number of decimal places up to two - solve simple measure and money problems involving fractions and decimals to two decimal places	- identify, name and write equivalent fractions of a given fraction - recognise mixed numbers and improper fractions and convert from one to another - compare and order fractions whose dominators are all multiples of same number - 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 - read and write decimal numbers as fractions - recognise and use thousandths and relate to tenths, hundredths and decimal equivalents - round decimals with two decimal places to nearest whole number and to one decimal place - read, write, order and compare numbers with	- use common factors to simplify fractions - use common multiples to express fractions in same denomination - compare and order fractions, including fractions > 1 - add and subtract fractions with different denominators and mixed numbers - multiply simple pairs of proper fractions, writing answer in simplest form - divide proper fractions by whole numbers - identify the value of each digit in numbers given to three decimal places - associate a fraction with division and calculate decimal fraction equivalents - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

up to three decimal places
- recognise the per cent symbol (%) and understand that it relates to ‘number of parts per hundred’
- write percentages as a fraction with denominator 100, and as a decimal
- solve problems

Measurement

Using measures → **Money** → **Time** → **Perimeter, area and volume**

YR	Y1	Y2	Y3	Y4	Y5	Y6
- use language to describe size of objects - compare length, weight and capacity through practical exploration - sequence events within a day eg morning, afternoon, evening	- compare, descibe and solve practical problems for: :lengths/ heights :mass/weight :capacity/volume :time - measure and record the following: :lengths/ heights :mass/weight :capacity/volume :time (hours, minutes, seconds) - recognise the value of different denominations - sequence events in chronological order -recognsie and use language relating to dates - tell the time to the hour and half past the hour - draw hands on a clock face to show times	- use appropriate standard units to estimate and measure length and height in any direction (m,cm) :mass (kg, g) Temp (˚C), capacity (l/ml) to the nearest appropriate unit - compare and order lengths, mass, volume and capactiy using <, > or = - recognise and use £ and p symbols - find combinations of coins - solve simple problems involving addition and subtraction of money - compare and sequence intervals of time - tell and write time to five minutes, including quarter past/to - know number of minutes in an hour and number of hours in a day	- measure, compare, add and subtract lengths, mass, volume and capacity - add and subtract money, giving change - tell and write time from analogue clock, including using Roman numerals, and 12 hour and 24 hour clocks - estimate and read time with increasing accuracy to nearest minute - compare times in terms of second, minutes and hours - know number of seconds in a minute and number of days in each month - compare durations of events - measure the perimeter of simple 2D shapes	- convert between units of measure - estimate and compare units of measure - estimate, compare and calculate money in pounds and pence - 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 and weeks to days - measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m - find the area of rectilinear shapes by counting squares	- convert between units of metric measure - use equivalence of metric and imperial measure - use all four operations to solve problems involving measure - use all four operations to solve problems involving money - solve problems involving converting between units of time - measure and calculate the perimeter of composite rectilinear shapes in cm and m - calculate and compare the area of rectangles including using standard units - estimate the area of irregular shapes - estimate volumes and capacity	- use, read, write and convert standard unitsof mass, lengt, volume and time using decimals - convert between miles and kilometres - solve problems involving units of measure to 3 decimal places - use, read, write and convert between standard units - recognise thata shapes with same areas can have different perimeters and vice versa - recognise when to use formulae for area and volume of shapes - calculate the area of parallelograms and triangles - calculate, estimate and compare volumes of cubes and cuboids using standard units

Geometry – Properties of shape

2D shapes → **3D shapes** → **Position and Direction** → **Angles and Lines**

YR	Y1	Y2	Y3	Y4	Y5	Y6
- talk about and explore 2D and 3D shapes using mathematical language - match, rotate and manipulate shapes within shape games and puzzles - use positional language to describe where shapes are in relation to each other - compose and decompose shapes, recognising a shape can have other shapes within it - to explore and create patterns that use objects more than once in a repeat eg AABAAB	-recognise and name common 2D shapes - recognise and name common 3D shapes - diescribe postion, direction and movement in relation to a quarter, half and three quarter turn	- identify properties of 2D shapes - identify relationship between 2D and 3D shapes - compare and sort 2D shapes - recognise and name common 3D shapes - compare and sort 3D shapes - order and arrange a combination of objects in patterns and sequences - describe position, direction and movement	- draw 2D shapes - make 3D shapes using modelling - recognise angles as a property of a shape - recognise right angles, half turns and three-quarter turns - identify horizontal and vertical lines - identify perpendicular and parallel lines	- classify geometric shapes including quadrilaterals and triangles - identify lines of symmetry in 2D shapes - identify acute and obtuse angles - describe positions on a 2D grid as coordinates in the first quadrant - describe movements between positions as translation - plot points and draw side to complete a polygon	- distinguish between regl;ar and irregular polygons - find missing lengths and angles in rectangles - identify 3D shapes from 2D representations - know angles are measured in degrees - estimate and compare acute, obtuse and reflex angles -draw and measure angles - identify angles at a point - dexcribe a shape position following reflection or translation	- draw 2D shapes using given dimensions and angles - compare and classify geometric shapes - name parts of a circle (radius, diameter, circumference) - know that a diameter is twice the radius - recognise, describe and build 3D shapes (nets) - find angles in any triangles, quadrilaterals and regular polygons - recognise angles that meet at a point that are not on a straight line - describe positions on a coordinates grid (all 4 quadrants) - translate shapes on a coordinate plain and reflect them in the axis.

Statistics

Present and interpret data → **Solve statistical problems**

YR	Y1	Y2	Y3	Y4	Y5	Y6
		- interpret and construct simple pictograms, tally charts, block diagrams and simple tables - ask and answer questions about totalling and comparing categorical data	- interpret and present data using bar charts, pictograms and tables - solve one step and two-step problems using info from bar charts, pictograms and tables	- interpret and present discrete and continuous data - solve comparison, sum and difference problems presented in bar charts, tables and graphs	- conplete, read and interpret tables, including timetables - solve comparison, sum and difference problems presented in line graphs	- interpret and construct pie charts and line graphs - calculate and interpret mean as an average