

Hummersea Primary School Numeracy Curriculum Progression Map - Overview

Curriculum Scope		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
S D B E R	Counting	 Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. Vocabulary Numerals, numbers, one hundred. 	 Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. Vocabulary Steps, sequence, forward, backward 	 Count from 0 in multiples of 4, 8, 50 and 100; Vocabulary Multiples 	 Count in multiples of 6, 7, 9, 25 and 1000. Find 1000 more or less than a given number. 	 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. 	 Use negative numbers in context, and calculate intervals across zero. Vocabulary negative numbers, powers of integer
	Place value	 Given a number, identify one more and one less. Vocabulary Bigger than, less than, smaller than, more than, the same as, fewer, least, most, 	 Recognise the place value of each digit in a two- digit number (tens, ones). Compare and order numbers from 0 up to 100; use <, > and = signs. Vocabulary Sort, represent, multiples, partitioning, ones, tens, more than, less than, equals, place value, 	 Recognise the place value of each digit in a three- digit number (hundreds, tens, ones). Find 10 or 100 more or less than a given number. Compare and order numbers up to 1000. Vocabulary Ascending, descending, 10 or, 100 more, 10 or 100 less, hundreds, 	 Recognise the place value of each digit in a four- digit number. Order and compare numbers beyond 1000. Round any number to the nearest 10, 100 or 1000. Vocabulary 1000 more, 1000 less, thousands, round 	 Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit. Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. Vocabulary Ten thousands, one hundred thousands 	 Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Round any whole number to a required degree of accuracy. Vocabulary Millions, ten millions
	Representing numbers	 Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Read and write numbers from 1 to 20 in numerals and words. Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs. Vocabulary Show, number line, two-digit numbers, 	 Identify, represent and estimate numbers using different representations, including the number line. Read and write numbers to at least 100 in numerals and in words. Vocabulary Numerals, estimate,	 Identify, represent and estimate numbers using different representations. Read and write numbers up to 1000 in numerals and in words. Vocabulary Numerals	 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 zero and place value. Vocabulary Roman numerals, number system, 	 Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. Recognise and use square numbers and cube numbers and their notation. Vocabulary Square, cube, 	





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	Number facts	 Represent and use number bonds and related subtraction facts within 20. Vocabulary Number bonds, part, whole 	 Use place value and number facts to solve problems. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. 				
Four operations	Addition and subtraction	 Add and subtract one-digit and two-digit numbers to 20, including zero. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = -9. Vocabulary Add, plus, altogether, total, take away /minus, digit 	 Add and subtract numbers using concrete objects, pictorial representations, and mentally, including TU+U, TU+T, TU+TU AND U+U+U. Show that addition of two numbers can be done in any order (cummutative) and subtraction of one number from another cannot. Solve problems with addition and subtraction using concrete objects and pictorial representations. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. Vocabulary addition/add, subtraction, difference, equals, facts, problems, inverse sum, commutative, inverse 	 Add and subtract numbers mentally, including: HTU+U, HTU+T, HTU+H. Add and subtract numbers with up to three digits, using formal written methods of columnar 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. Vocabulary Column addition, column subtraction, carrying, borrowing, exchanging, 	 Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. 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. Vocabulary Two steps 	 Add and subtract numbers mentally with increasingly large numbers. Add and subtract whole numbers with more than 4 digits, including using formal written methods. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. 	 Perform mental calculations, including with mixed operations and large numbers.





Multiplication and

division.

	H Numeracy C	Hummersea Primary School Curriculum Progression Map	- Overview
•	Recall and use	Recall and use	Recall multi

involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the numbers. support of the teacher. • Vocabulary Equal, unequal, share, group, lots of, odd,

• Solve one-step problems

even, arrays

- multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Vocabulary

Multiplication, division, divide, multiply, times, odd, even, repeated addition

- 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.
- Progress to formal written methods calculation.
- 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.

Vocabulary

Product, integer scaling problems, short division, grid method,

- iplication 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.
- Solve problems involving ٠ 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.

Vocabulary

factor pairs, distributive law, remainders,

•

- Know and use the prime) numbers.
- numbers up to 19. numbers mentally
- facts. •
 - formal written method, including long multiplication for twodigit numbers.
 - written method of short for the context.
- multiplication and division including using factors and multiples, squares and cubes.
- multiplication and division and a equals sign.
- multiplication and simple rates.



Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. vocabulary of prime numbers, prime factors and composite (non-Establish whether a number up to 100 is prime and recall prime

Multiply and divide

drawing upon known

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

Multiply numbers up to 4 digits by a one- or twodigit number using a

Divide numbers up to 4 digits by a one-digit number using the formal

division and interpret remainders appropriately

Solve problems involving

their knowledge of

Solve problems involving addition, subtraction,

combination of these, including understanding the meaning of the

Solve problems involving division, including scaling by simple fractions and problems involving

- Identify common factors, common multiples and prime numbers.
- Perform mental • calculations, including with mixed operations and large numbers.
- 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 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 two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
- Use their knowledge of the order of operations to carry out calculations involving the four operations.
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
- Solve problems involving addition, subtraction, multiplication and division.
- Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Vocabulary Brackets, BIDMAS,



					Multiples, factors, prime numbers, square numbers, cube numbers, product,	
Fractions, percentages and decimals.	 Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. Vocabulary Whole, half, quarter, equal, parts , quantity, 	 recognise, find, name and write fractions ¹/₃, ¹/₄ ²/₄ and ³/₄ of a length, shape, set of objects or quantity write simple fractions for example, ¹/₂ of 6 = 3 and recognise the equivalence of ⁴/₄ and ¹/₂. Count up and down in halves and quarters. Vocabulary three quarters, third, equivalent, fractions, unit fractions, non unit, halves, quarters,	 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 and show, using diagrams, equivalent fractions with small denominators. Compare and order unit fractions, and fractions with the same denominators. 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 as numbers: unit fractions with small denominators Recognise and use fractions with small denominators. Recognise and use fractions with small denominators. Recognise and use fractions with small denominators. Recognise using all denominator within one whole [for example, ⁵/₇ + ¹/₇ = ⁶/₇] Solve problems using all fraction knowledge. 	 Count up and down in hundredths. Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Recognise and show, using diagrams, families of common equivalent fractions. 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. Add and subtract fractions with the same denominator. Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write ¹/₄, ³/₄. 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. Round decimals with one decimal place to the nearest whole number. 	 Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number. 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 Add and subtract fractions with the same denominator shat 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. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the 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 the same denomination. Compare and order fractions, including fractions > 1. 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. Divide proper fractions by whole numbers. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction. Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. Multiply and divide numbers by 10,100 and 1000 giving answers up to three decimal places. Multiply one digit numbers with up to two decimal places by whole numbers.





• Compare numbers with up to thr Fractions, percentages the same number of places. decimal places up to two Recognise decimal places. symbol (% understar • Solve simple measure and money problems relates to and decimals. involving fractions and parts per decimals to two decimal write per fraction v places. denomina Vocabulary a decimal Hundredths, Solve pro number ι decimal p Solve pro require ki percentag equivaler $\frac{2}{5}, \frac{4}{5}$ and with a de multiple Vocabulary Thousandths, impl mixed numbers, p hundred, multiple • Compare, describe and choose and use • measure, compare, add Convert between Convert k ٠ and time solve practical problems appropriate standard and subtract: lengths different units of different for: Lengths, units to estimate and (m/cm/mm); mass (kg/g); measure. measure. mass/weight, capacity, measure length/height in volume/capacity (I/mI) Estimate, compare and Understa • volume, time any direction (m/cm); calculate different approxim Measure and begin to mass (kg/g); temperature Vocabulary measures. equivaler • Milometers, record the following: (°C); capacity (litres/ml) metric ur lengths, heights, to the nearest Vocabulary imperial mass/weight, capacity, appropriate unit, using Convert, inches, po rulers, scales, volume, time. Estimate • thermometers and capacity. Measures Measure Vocabulary measuring vessels Capacity, weight, height, length, • compare and order Vocabulary lengths, mass, Metric, imperial, p feet, inches, volume/capacity and record the results using >, < and = Vocabulary Metres, centimetres, kilograms, grams, litres, millilitres, Celsius, temperature, volume,



ee decimal e the per cent %) and nd that per cent o 'number of thundred', and centages as a with ator 100, and as l. oblems involving up to three olaces. oblems which nowing ge and decimal nts of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, d those fractions enominator of a of 10 or 25	 Use written division methods in cases where the answer has up to two decimal places. Solve problems involving the calculation of percentages and the use of percentages for comparison. Solve problems which require answers to be rounded to specified degrees of accuracy. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Vocabulary Simplify 	
between units of metric und and use nate nces between nits and common units such as ounds and pints. volume and	 Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Use, read, 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 to up to three decimal places. Convert between miles and kilometres. 	
	, Miles	



Perimeter and area		 Measure the perimeter of simple 2-D shapes. Vocabulary Perimeter, 	 Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Find the area of rectilinear shapes by counting squares. Vocabulary Area, rectilinear, centimetres square, metres square	 Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. Calculate and compare the area of rectangles and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes. 	 Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]. Vocabulary Volume, cubic centimetres, cubic metres,
 Sequence events in chronological order using language, 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 these times. Time Vocabulary O'clock, half past, minute hand, hour hand, morning, afternoon, dinner time, night, day, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, January, February, March, April, May, June, July, August, September, October, November, December, 	 Compare and sequence intervals of time. Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Vocabulary Quarter past, quarter two, minutes past, minutes to, hour, minutes 	 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, a.m./p.m., 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. Vocabulary Roman numerals, seconds, leap year, am, pm, digital, 24 hour clock, 12 hour clock, seconds, minutes accurate to the number of seconds. 	 Convert between hours to minutes and vice versa 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. 	 Solve problems involving converting between units of time. 	 Solve more complex problems involving time.





Money

Shape

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Money	 Recognise and know the value of different denominations of coins and notes. Vocabulary Coins, notes, pound, pence, 	 Recognise and use symbols for pounds (£) and pence (p); 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. Vocabulary Total spent, change, amount, 	 Add and subtract amounts of money to give change, using both £ and p in practical contexts. 	 Estimate, compare and calculate different measures, including money in pounds and pence. 	 Use all four operations to solve problems involving measure using decimal notation, including scaling. 	
Shape	 2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. Vocabulary 2D shape, 3D shape 	 combinations, To know the vertices, edges, faces and symmetry. Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. Compare and sort common 2-D and 3-D shapes and everyday objects. Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. Identify 2-D shapes on the surface of 3-D shapes. Compare and sort common 2-D and 3-D shapes and everyday objects. Vocabulary Vertices, edges, faces, sides, corners, symmetry, symmetrical surface, 	 Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. Draw 2-D shapes. 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 horizontal and vertical lines and pairs of perpendicular and parallel lines. Vocabulary Degrees, horizontal, vertical, perpendicular, parallel, orientations, angles, right angle turns. 	 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. Complete a simple symmetric figure with respect to a specific line of symmetry. Identify acute and obtuse angles and compare and order angles up to two right angles by size. Vocabulary Line of symmetry, quadrilaterals, symmetric figure, acute, obtuse, 	 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. Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Draw given angles, and measure them in degrees (°). Identify: angles at a point and one whole turn (total 360°) angles at a point on a straight line and half a turn (total 180°), other multiples of 90°. Vocabulary Regular, irregular, polygons, 	 Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. 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. Recognise, describe and build simple 3-D shapes, including making nets. Find unknown angles in any triangle, quadrilateral and regular polygons. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. Vocabulary Radius, diameter, circumference. Net,





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Position, direction and patterns.	Position and Direction	 Describe position, direction and movement, including whole, half, quarter and three- quarter turns. Vocabulary Whole turn, quarter turn, half turn, three-quarter turn, 	 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 quarter, half and three-quarter turns (clockwise and anti-clockwise). Vocabulary 	 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. Vocabulary Right-angle turns, 	 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. Vocabulary Coordinates, x axis, y axis, plot, unit, 	 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. Vocabulary Translation, 	 Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. Vocabulary Four quadrants,
Data handling	Data		 Repeated, repeated pattern, right angle turn, clockwise, anticlockwise, Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. 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. Vocabulary Pictograms, tally chart, tally, block diagram, more than, less than, total, 	 Interpret and present data using bar charts, pictograms and tables. Solve one-step and two- step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables. Vocabulary Bar charts, fewer, scale, greater than, key, popular 	 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. Vocabulary Line graphs 	 Complete, read and interpret information in tables, including timetables. Solve comparison, sum and difference problems using information presented in a line graph. Vocabulary timetables 	 Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average. Vocabulary Pie charts, average, mean,
Algebra, ratio and proportion	Algebra, ratio and proportion.						 Use simple formulae. Generate and describe linear number sequences. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two variables. Vocabulary Algebra, unknown, value, equation . Ratio and proportion





proportion			



 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 the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison. Solve problems involving similar shapes where the scale factor is known or can be found. Solve problems involving
 Solve problems involving
unequal sharing and
grouping using
knowledge of fractions
and multiples.
Vocabulary
Ratio, parts, scale, scale factor,