Harlesden Progression ladders 2016-17

Menu	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Counting (a)	I can estimate, compare 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.	I can count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.	I can count from 0 in multiples of 4, 8, 50 and 100.	I can count in multiples of 6, 7, 9, 25 and 1000	I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Now should be working on mastery and problem solving (objective year 5).
Counting (b)	I can count to 100, forwards and backwards, from any given number.	I can count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.	Now should be working on mastery and problem solving (objective year 2).	Now should be working on mastery and problem solving (objective year 2).	Now should be working on mastery and problem solving (objective year 2).	Now should be working on mastery and problem solving (objective year 2).
Counting (c)	n/a	n/a	n/a	I can count backwards through zero to include negative numbers	I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	I can use negative numbers in context, and calculate intervals across zero.
Counting (d)	I can understand less than and more than and start finding 1 more or less than any number.	I can find 1 less than and more than any number and beginning to be confident with finding 10 more and less than.	I can find 10 or 100 more or less than a given number.	I can find 1000 more or less than a given number	Now should be working on mastery and problem solving (objective year 4).	Now should be working on mastery and problem solving (objective year 4).
Place Value (a)	I can recognise the place value of each digit up to 20 by identifying tens and ones and I can place them on a number line.	I can recognise the place value of each digit in a two-digit number and use these facts to solve problems.	I can recognise the place value of each digit in a three-digit number.	I can recognise the place value of each digit in a four-digit number	I can read, write, order and compare numbers up to 1 000 000 and determine the value of each digit.	I can read, write, order and compare numbers up to 10 000 000 and identify the value of each digit.
Place Value (b)	I can compare and order numbers upto 100.	I can compare and order numbers up to 99. I can use < > = to compare numbers. I can recognise and even number and an odd number.	I can compare and order numbers up to 1000.	I can round any number to the nearest 10, 100 or 1000.	I can round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	I can round any whole number to any digit and use rounding to check calculations.
Representing number (a)	I can identify and represent numbers using objects and pictorial representations including number lines, & use language of: equal to, more than, less than	I can identify, represent and estimate numbers using different representations, including the number line	I can identify numbers using different representations up to 1000.	I can identify, represent and estimate numbers using different representations, for calcualtions upto 10,000	I can recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}).	Now should be working on mastery and problem solving (objective year 5).
Representing number (b)	I can read and write numbers from 1 to 20 in numerals and words	I can read and write numbers to 100 in numerals and in words.	I can read and write numbers up to 1000 in numbers and in words.	I can read and write 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.	I can read Roman numerals to 1000 (M) and recognise years written.	Now should be working on mastery and problem solving (objective year 5).
Representing number (c)	I can read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs	Now should be working on mastery and problem solving (objective year 1).	Now should be working on mastery and problem solving (objective year 1).	Now should be working on mastery and problem solving (objective year 1).	Now should be working on mastery and problem solving (objective year 1).	Now should be working on mastery and problem solving (objective year 1).
Number facts (+/-)	I know my number bonds snd use these to help me with my subtraction facts within 20	I can recall and use addition and subtraction facts to 20 confidently, and use related facts up to 100.	I can add/ subtract 2-digit numbers mentally, including numbers that go over 100.	Now should be working on mastery and problem solving (objective year 3).	Now should be working on mastery and problem solving (objective year 3).	Now should be working on mastery and problem solving (objective year 3).
Mental +/-	I can add and subtract one-digit and two-digit numbers to 20, including zero	I can add and subtract numbers using concrete objects, pictorial representations, and mentally. I can add and subtract two-digit numbers to one-digit numbers, three one-digit numbers, and two two-digit numbers. I know that addition of numbers can be done in any order.	I can add and subtract numbers mentally, including: HTU+U, HTU+T and HTU+H	I can use a wide range of mental addition/ subtraction strategies. ie. Number Bonds, add the nearest multiple of 10, 100, 1000 and adjust, use near doubles, partitioning and recombining.	I can add and subtract numbers mentally with increasingly large numbers	I can perform mental calculations (solve problems in my head) including with mixed operations (+ -) and large numbers, using and practising a range of mental strategies.
Written +/-	I can add and subtract numbers with 2 digits up to 20, and can write about how I worked out my answer	I can add and subtract numbers with up to two digits, using an informal written methods.	I can add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	I can add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	I can add and subtract whole numbers with more than 4 digits, including using formal written methods	I can add and subtract numbers including decimals and those involving measures and use the written method with these word problems.
Problems +/- (a)	I can solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations including missing number problems such as 7 = □ – 9.	I can solve problems with addition and subtraction, using concrete, pictorial and abstract representations	I can estimate the answer to a calculation and use inverse operations to check answers	I can estimate and use inverse operations to check answers to a calculation	I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Now should be working on mastery and problem solving (objective year 5).
Problems +/- (b)	Through hands on experience I can see that subtraction is the opposite of addition.	I can recognise and use the inverse relationship between addition and subtraction.I can use this to check calculations and solve missing number problems.	I can solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	I can solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Now should be working on mastery and problem solving (objective year 5).

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Number facts (x/÷)	To be able to count using repeated addition in 2s, 5s and 10s.	I can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables.	I can recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	I can recall fluently multiplication and division facts for multiplication tables up to 12 × 12	I can identify multiples and factors and prime numbers upto 100.	I can identify common factors, common multiples and prime numbers.
Mental (x/÷)	N/A	I can show that multiplication of two numbers can be done in any order and division cannot.	I can write sentences for multiplication and division.	I can 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	I can multiply and divide numbers mentally drawing upon known facts I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	I can perform mental calculations, including those with mixed operations (x /) and large numbers.
Written (x/÷) (a)	Using concrete objects, pictorial representations, arrays and with the support of the teacher I can solve I step multiplication and division problems.	I can solve problems involving multiplication and division using various strategies (for example, using materials, arrays, repeated addition, mental methods, and multiplication and division facts) including problems in contexts.	•I can solve problems, including missing number problems, involving multiplication and division.	I can solve problems involving multiplying and adding, including harder correspondence problems such as n objects are connected to m objects	I can solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	I can use BODMAS to carry out calculations involving the four operations (x + / -) I can estimate to check answers to calculations and understand, in the context of a problem, the degree of accuracy needed.
Written (x/÷) (b)	N/A	I can calculate multiplication sentences within the multiplication tables and write them using the multiplication (×), and equals (=) signs.	I can start to use formal written methods for multiplication.	I can multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	I can 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	I can multiply 2 to 4 digit numbers by a two-digit whole number using the written method of long multiplication
Written (x/÷) (c)	N/A	I can calculate division sentences within the multiplication tables and write them using the division (÷) and equals (=) signs.	I can start to use informal written methods for division.	I can divide numbers up to 3 digits by a one-digit number using the formal / informal (chunking) written method	I can divide numbers up to 4 digits by a one-digit number using the formal / informal (chunking) written method	I can divide numbers up to 4 digits by a two-digit whole number using the written method of long division, and write remainders as whole number remainders, fractions, or by rounding, as suitable
Written (x/÷) (d)	N/A	N/A	I can divide numbers upto 200 using the chunking method, using known multiplication facts (2,3,4,5,8,10,).	I can divide numbers upto 1000 using the chunking method, using known multiplication facts (2,3,4,5,6,7,8,9,10, 25 and 50).	I can divide numbers upto 1000 using the chunking method, using known multiplication facts (2,3,4,5,6,7,8,9,10,11,12 25 and 50).	Now should be working on mastery and problem solving (objective year 5).
Recognising fractions	I can find a quarter and a half of a quantity, object and shape.	I can recognise, find, name and write fractions 1/3, 1/4 , 2/4 and 3/4 of a shape or quantity	I can 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.	I can count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	I can recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number	Now should be working on mastery and problem solving (objective year 5).
Comparing fractions	N/A	N/A	I can compare and order unit fractions, and fractions with the same denominators and recognise and show, using diagrams, equivalent fractions with small denominators	I can recognise and show, using diagrams, families of common equivalent fractions	I can compare and order fractions whose denominators are all multiples of the same number and recognise equivalent fractions.	Now should be working on mastery and problem solving (objective year 5).
Finding fractions of quantities	N/A	N/A	I can recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	I can solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, related to times tabel facts.	I can solve word problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, related to times tabel facts.	Now should be working on mastery and problem solving (objective year 5).
Fraction calculations (a)	N/A	I can write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2. To be able to find several parts of a fraction. E.g. 3/4 of 20.	I can add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]	I can add and subtract fractions with the same denominator	I can add and subtract fractions with the same denominator and denominators that are multiples of the same number	I can add and subtract fractions with different denominators and mixed numbers, using equivalent fractions.
Fraction calculations (b)	N/A	N/A	N/A	N/A	I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	I can multiply simple pairs of proper fractions, writing the answer in its simplest form and divide proper fractions by whole numbers.

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Fraction problems	I can identify quarters and halves of objects and pictures.	I can match fractions with pictures e.g. 1/4 going with a picture of 1/4 of a pizza slice.	I can solve problems using all fraction knowledge of 1/2, 1/4s, 1/3s, 1/10s and 1/5s	I can solve simple measure and money problems involving fractions and decimals to two decimal places	I can solve problems which require knowing percentage and decimal equivalents of ½ , ¼ , 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25	I can recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Decimals as fractional amounts	N/A	N/A	N/A	I can recognise and write decimal equivalents of any number of tenths or hundredths and decimal equivalents of 1/4 and 1/2s.	I can read and write decimal numbers as fractions	I know that fraction with division are related and I can calculate decimal fraction equivalents [for example, 0.25] for a simple fraction.
Ordering decimals (a)	N/A	N/A	N/A	I can round decimals with one decimal place to the nearest whole number.	I can round decimals with two decimal places to the nearest whole number and to one decimal place	I can round and find to the nearest significant figure upto three decimal points.
Ordering decimals (b)	N/A	N/A	N/A	I can compare numbers with the same number of decimal places up to two decimal places	I can read, write, order and compare numbers with up to three decimal places	I can read, write, order and compare numbers with up to three decimal places, inlcuding fractions.
Calculating with decimals	N/A	N/A	N/A	I can multiply and divide by 10, 100 and give my answer to one decimal place.	I can multiply and divide numbers by 10, 100 and give my answer to two decimal places.	I can multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.
Percentages	N/A	N/A	N/A	N/A	I can recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and can write percentages as fractions.	I can solve problems involving the calculation of percentages [for example 15% of 360] and the use of percentages to compare amounts.
Ratio & Proportion	N/A	N/A	N/A	N/A	I can solve problems involving unequal sharing and grouping using knowledge of fractions andmultiples.	I can solve ratio and proportion problems using multiplication and division facts.
Algebra (a)	N/A	N/A	I can solve problems such as: There are some hens and sheep on a farm. Altogther there were 8 heads and 22 feet, how many hens were there?	I can solve unknowns in the form of letters in mutliplciation,division, subtraction and addition problems. i.e 2x2 -2x3 = 11 What's the value of x? This is based on what skills they are expected to know for addition etc	I can solve unknowns in the form of letters in mutliplciation,division, subtraction and addition problems. i.e 2x2 -2x3 = 11 What's the value of x? This is based on what skills they are expected to know for addition etc	I can use simple formulae, describe linear number sequences, write missing number problems algebraically (5+_= 7 as 5+p=7)
Algebra (b)	N/A	N/A	N/A	N/A	N/A	I can solve and balance equation with either one missing number or a pair of missing numbers
Measures (a)	I can solve/ measure practical problems for: length/height, weight/mass, capacity/volume & time using non formal measures	I can choose and use appropriate units to estimate and measure length/height (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit.	I can measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	I can convert between different units of measure/ money and estimate and compare amounts.	I understand the differences between metric units and common imperial units such as inches, pounds and pints and convert between the two.	I can solve problems involving the calculation and conversion of units of measure, using decimals up to three decimal places.
Measures (b)	I can compare, describe and solve practical problems for: length/height, weight/mass, capacity/volume & time	I can compare and order lengths, mass, volume/capacity and record the results using >, < and =	I can measure the perimeter of simple 2-D shapes	I can measure and calculate the perimeter of irregular shapes and areas of quadrilaterals using squares and cm.	I can measure and calculate the perimeter and areas of compound shapes in mm,cm and m.	I can measure and calculate the perimeter and areas of polygons in mm, metres and cm. I can find the volume of basic shapes.

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Money	I can recognise and know the value of different coins and notes	I can find different combinations of coins that equal the same amounts of money and solve simpe money problems.	•I can add and subtract amounts of money to give change, using both £ and p in practical contexts upto hundred pounds.	I can add and subtract money using column method upto a thousand.	•I can use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	Now should be working on mastery and problem solving (objective year 5).
Time (a)	I can sequence events using time language Recognise and use language relating to dates, including days of the week, weeks, months and years	I know the number of minutes in an hour and the number of hours in a day and compare and sequence time.	I can estimate, compare 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	I can solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days and solving elapsed time problems featuring 15min, 30 min.	I can solve problems involving converting between all units of time and working out elapsed to the nearest minutes.	Now should be working on mastery and problem solving (objective year 5).
Time (b)	I can tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	I can tell and write the time to five minutes, including quarter past and to the hour. Draw the hands on a clock face to show these times.	I can tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	I can read, write and convert time between analogue and digital 12- and 24-hour clocks	Now should be working on mastery and problem solving (objective year 4).	Now should be working on mastery and problem solving (objective year 4).
Shape vocabulary	I can recognise and name common 3-D shapes (e.g. Cubes, cuboids, pyramids & spheres)	I can identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	I can identify horizontal and vertical lines and pairs of perpendicular and parallel lines	I can identify lines of symmetry in 2-D shapes presented in different orientations.	I can distinguish between regular and irregular polygons based on reasoning about equal sides and angle	I can label and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the length of the radius.
Properties of 2-d shape	I can recognise and name common 2-D shapes (e.g. Square, circle, triangle)	I can compare and sort common 2-D shapes and everyday objects.	I can draw 2-D shapes	I can compare and classify geometric shapes, including quadrilaterals and triangles, based on properties and sizes and look for lines of symmetry.	I can use the properties of rectangles to deduce related facts and find missing lengths and angles	I can draw 2-D shapes using given dimensions and angles. I can compare and group geometric shapes based on their properties (features) and sizes.
Properties of 3-d shape	I can use mathematical terms to describe 3-D shapes	I can identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces, including comparing 3d shapes to every day objects.	I can make 3-D shapes using modelling materials recognise 3-D shapes in different orientations and describe them.	I can make 3-D shapes using modelling materials recognise 3-D shapes in different orientations and describe them.	I can identify 3-D shapes, including cubes and other cuboids, from 2-D representations	I can recognise, describe and build simple 3-D shapes, including making nets. I can find unknown angles in any triangle, quadrilateral, and regular polygon.
Angles (a)	I can describe position, direction and movement, including whole, half, quarter and three-quarter turns.	I can 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 ¾ turns	I can identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn (compass)	I can describe movements between positions as translations of a given unit to the left/right and up/down	I can identify angles at a point and one whole turn (total 360°); at a point on a straight line ½ a turn (total 180°) and right angle turns.	I can draw and translate and rotate simple shapes on the coordinate plane, and reflect them in the axes.
Angles (b)	N/A	N/A	I can describe positions using the vocabulary horizontal (across) and vertical (up/down). E.g The triangel is three squares across and three square up.	I can describe positions on a 2-D grid as coordinates in the first quadrant	I can describe positions on the full coordinate grid (all four quadrants)	I can describe positions on the full coordinate grid and find missing coordinates on shapes.
Position & Direction	I can give instuctions to direct an object or a person e.g. left, right, forward three spaces.	I can order and arrange combinations of mathematical objects in patterns and sequences.	I can identify whether angles are greater or less than right angle and recognise these angles in shapes and directions.	I can draw polygons based on specified point and can identify acute, obtuse and reflex ang;es	I can draw given angles, and measure them in degrees (°) and can compare different angles using mathematical vocab.	I can recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
Interpreting data	I can look a simple tally chart and understand what it means.	I can interpret and construct simple pictograms, tally charts, block diagrams and simple tables	I can interpret and present data using bar charts, pictograms and tables - (can use ICT)	I can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	I can complete, read and interpret information in tables, including timetables	I can read and construct pie charts and line graphs. I can work out and interpret the mean as an average.
Extract info from data	N/A	I can ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	I can 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	I can solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	I can solve comparison, sum and difference problems using information presented in a line graph	I can use pie charts and line graphs to solve problems