

# Place Value Progression

		Three and Four-Year-Olds Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1) Number and place value	a) Count	<b>Early Learning Goals</b> Recite numbers past 5. Say one number 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. Verbally count beyond 20, recognising the pattern of the counting system.	1.1.a.1 Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number	2.1.a.1 Count in tens from any number, forward and backward	3.1.a.1 Count from 0 in multiples of 100	4.1.a.1 Count in multiples of 1000; count backwards through zero to include negative numbers	5.1.a.1 Count forwards and backwards with positive and negative whole numbers, including through zero	6.1.a.1 Calculate intervals across zero
			1.1.a.2 Given a number, identify one more and one less	2.1.a.2 Identify ten more or ten less than any given number	3.1.a.2 Find 10 or 100 more or less than a given number	4.1.a.2 Find 1000 more or less than a given number	5.1.a.2 Count forwards or backwards in steps of powers of 10 for any given number to 1 000 000	6.1.a.2 Consolidate counting forwards or backwards in steps of powers of 10 for any given number to 1 000 000
			1.1.a.3 Count in multiples of twos, fives and tens	2.1.a.3 Count in steps of 2, 3, and 5 from 0, forward and backward	3.1.a.3 Count from 0 in multiples of 4, 8 and 50	4.1.a.3 Count in multiples of 6, 7, 9 and 25	5.1.a.3 Continue to count in any multiples of 2 to 10, 25 and 50	6.1.a.3 Consolidate counting in multiples of 2, through to 10, 25 and 50
	b) Represent numbers	Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Have a deep understanding of numbers to 10, including the composition of each number.	1.1.b.1 Read and write numbers to 100 in numerals	2.1.b.1 Recognise the place value of each digit in a two-digit number (tens, ones)	3.1.b.1 Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	4.1.b.1 Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)	5.1.b.1 Read and write numbers to at least 1 000 000 and determine the value of each digit	6.1.b.1 Read and write numbers to 10 000 000 and determine the value of digits
		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. Link the number symbol (numeral) with its cardinal number value.	1.1.b.2 Read and write numbers from 1 to 20 in words	2.1.b.2 Read and write numbers to at least 100 in numerals and words	3.1.b.2 Read and write numbers up to 1000 in numerals and in words	4.1.b.2 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	5.1.b.2 Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	6.1.b.2 Consolidate reading Roman numerals to 1000 (M) and recognising years written in Roman numerals
		Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). Show 'finger numbers' up to 5.	1.1.c.1 Identify and represent numbers using objects and pictorial representations including the number line	2.1.b.3 Identify, represent and estimate numbers to 100 using different representations, including the number line, and	3.1.b.3 Identify, represent and estimate numbers to 1000 using different representations and partitioning in different ways	4.1.b.3 Identify, represent and estimate numbers to 10 000 using different representations	5.1.b.3 Interpret negative numbers in context	6.1.b.3 Use negative numbers in context



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		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 (recognise quantities without counting) up to 5.		partitioning in different ways				
c) Order and compare	Compare quantities using language: 'more than', 'fewer than'. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	1.1.c.1 Use the language of: equal to, more than, less than (fewer), most, least	2.1.c.1 Compare and order numbers from 0 up to 100; use <, > and = signs	3.1.c.1 Compare and order numbers up to 1000	4.1.c.1 Order and compare numbers beyond 1000	5.1.c.1 Order and compare numbers to at least 1 000 000	6.1.c.1 Order and compare numbers up to 10 000 000	
d) Solve number problems	Solve real world mathematical problems with numbers up to 5. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	1.1.d.1 Solve number problems with number and place value from the Year 1 curriculum	2.1.d.1 Solve number problems with number facts and place value from the Year 2 curriculum	3.1.d.1 Solve number problems and practical problems with number and place value from the Year 3 curriculum	4.1.d.1 Solve number and practical problems with number and place value from the Year 4 curriculum, with increasingly large positive numbers	5.1.d.1 Solve number problems and practical problems with number and place value from the Year 5 curriculum	6.1.d.1 Solve number problems and practical problems with number and place value from the Year 6 curriculum	
e) Round numbers				3.1.e.1 Round whole numbers up to 100 to the nearest 10	4.1.e.1 Round whole numbers to 10,000 to the nearest 10, 100 or 1000	5.1.e.1 Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	6.1.e.1 Round whole numbers to 10 000 000 to a required degree of accuracy	

# Calculation Progression

		Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
2) Calculation a) Understand calculation		<p>Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').</p> <p>Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</p> <p>Show 'finger numbers' up to 5. Subitise.</p> <p>Explore the composition of numbers to 10.</p> <p>Automatically recall number bonds 0-5 and some to 10.</p> <p>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.</p> <p>Have a deep understanding of numbers to 10, including the composition of each number.</p> <p>Subitise (recognise quantities without counting) up to 5.</p>	1.2.a.1 Represent and use number bonds and related subtraction facts within 20	2.2.a.1 Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	3.2.a.1 Use understanding of place value and partitioning to develop methods for addition and subtraction with larger numbers	4.2.a.1 Use the distributive law to multiply two digit numbers by one digit	5.2.a.1 Continue to use the distributive law to partition numbers when multiplying them	6.2.a.1 Use knowledge of the order of operation
			1.2.a.2 Begin to understand multiplication, division and doubling through grouping and sharing small quantities	2.2.a.2 Understand that sum and difference indicate addition and subtraction respectively	3.2.a.2 Understand the structure of situations that require addition or subtraction	4.2.a.2 Understand the inverse relationship between addition and subtraction	5.2.a.2 Develop their understanding of the meaning of the equals sign	6.2.a.2 Consolidate their understanding of the equals sign as representing equivalence between two expressions
				2.2.a.3 Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	3.2.a.3 Use commutativity and associativity and multiplication facts to derive related facts	4.2.a.3 Use commutativity in mental calculations	5.2.a.3 Establish whether a number up to 100 is prime	6.2.a.3 Consolidate understanding of the structure of numbers
				2.2.a.4 Use a variety of language to describe multiplication and division	3.2.a.4 Understand the structure of situations that require multiplication	4.2.a.3 Use factor pairs in mental calculations	5.2.a.4 Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	6.2.a.4 Consolidate knowledge of types of number



# Calculation Progression

b) Calculate mentally	<p>Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').</p> <p>Show 'finger numbers' up to 5. Subitise.</p> <p>Explore the composition of numbers to 10.</p> <p>Automatically recall number bonds 0-5 and some to 10.</p> <p>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.</p> <p>Have a deep understanding of numbers to 10, including the composition of each number.</p> <p>Subitise (recognise quantities without counting) up to 5.</p>	<p>1.2.b.1 Mentally add and subtract one- and two-digit numbers to 20, including zero</p>	<p>2.2.b.1 Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: two two-digit numbers and adding three one-digit numbers</p>	<p>3.2.b.1 Mentally add and subtract numbers including a three-digit number with ones, tens or hundreds</p>	<p>4.2.b.1 Mentally add and subtract pairs of three-digit and four-digit numbers</p>	<p>5.2.b.1 Add and subtract numbers mentally with increasingly large numbers</p>	<p>6.2.b.1 Perform mental calculations, including with mixed operations and large numbers</p>
		<p>1.2.b.2 Mentally double numbers up to 10</p>	<p>2.2.b.2 Use addition and subtraction facts to 20 and derive related facts up to 100</p>	<p>3.2.b.2 Continue to use addition and subtraction facts to 20 and derive related facts up to 100</p>	<p>4.2.b.2 Use addition and subtraction facts to 100 and derive related facts up to 1000</p>	<p>5.2.b.2 Continue to develop knowledge of addition and subtraction facts and to derive related facts</p>	<p>6.2.b.2 Consolidate knowledge of addition facts and the related subtraction facts, deriving further related facts as required</p>
	<p>Explore the composition of numbers to 10.</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</p>		<p>2.2.b.3 Calculate mentally using multiplication and division facts for the 2, 5 and 10 multiplication tables</p>	<p>3.2.b.3 Calculate mentally using multiplication and division facts for the 3, 4 and 8 multiplication tables, including two-digit numbers times one-digit numbers</p>	<p>4.2.b.3 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</p>	<p>5.2.b.3 Multiply and divide numbers mentally drawing upon known facts</p>	<p>6.2.b.3 Identify common factors, common multiples and prime numbers greater than 100</p>
						<p>5.2.b.4 Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p>	<p>6.2.b.4 Consolidate multiplying and dividing whole numbers and decimals by 10, 100 and 1000</p>

# Calculation Progression

c) Solve calculation problems	<p>Solve real world mathematical problems with numbers up to 5.</p> <p>Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</p>	1.2.c.1 Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	2.2.c.1 Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods	3.2.c.1 Solve problems including missing number problems, using place value and more complex addition and subtraction		5.2.c.1 Solve addition and subtraction multi-step problems in familiar contexts, deciding which operations and methods to use and why	6.2.c.1 Solve multi-step addition and subtraction problems in less familiar contexts, deciding which operations and methods to use and why
		1.2.c.2 Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	2.2.c.2 Use the inverse relationship between addition and subtraction to solve missing number problems	3.2.c.2 Solve problems including missing number problems, using number facts and more complex addition and subtraction	4.2.c.1 Solve calculation problems involving two-step addition and subtraction in context, deciding which operations to use and why	5.2.c.2 Solve problems involving addition, subtraction, multiplication and division, and a combination of these	6.2.c.2 Consolidate solving problems using more than one of the four operations
	<p>Solve real world mathematical problems with numbers up to 5.</p> <p>Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</p>		2.2.c.3 Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	3.2.c.3 Solve calculation problems involving multiplication and division, including missing number problems, simple positive integer scaling and simple correspondence problems in which $n$ objects are connected to $m$ objects	4.2.c.2 Solve calculation problems involving two-step addition and subtraction in context, deciding which methods to use and why	5.2.c.3 Solve calculation problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	6.2.c.3 Solve multi-step calculation problems involving combinations of all four operations
					4.2.c.3 Solve problems involving multiplying and adding, including integer scaling and harder correspondence problems such as $n$ objects are connected to $m$ objects	5.2.c.4 Solve problems involving scaling by simple fractions and problems involving simple rates	6.2.c.4 Consolidate solving calculation problems involving scaling by simple fractions and simple rates
d) Recall	<p>Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').</p> <p>Explore the composition of numbers to 10.</p>	1.2.d.1 Begin to memorise number bonds to 10 and 20, including noticing the effect of adding or subtracting zero	2.2.d.1 Recall addition and subtraction facts to 20 fluently, deriving related facts to 100	3.2.d.1 Develop recall of number facts linking addition and multiplication	4.2.d.1 Recognise factor pairs	5.2.d.1 Identify multiples and factors, including all factor pairs of a number, and common factors of 2 numbers	6.2.d.1 Consolidate knowledge of multiples and factors, including all factor pairs of a number, and common factors of two numbers

# Calculation Progression

e) Use written calculation			2.2.d.2 Recall multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	3.2.d.2 Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	4.2.d.2 Recall multiplication and division facts for multiplication tables up to $12 \times 12$	5.2.d.2 Recall square numbers and cube numbers and the notation for them	6.2.d.2 Consolidate recall of square numbers and cube numbers and the notation for them
						5.2.d.3 Recall prime numbers up to 19	6.2.d.3 Consolidate recall of prime numbers up to 19
		1.2.e.1 Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	2.2.e.1 Record addition and subtraction in columns using an expanded format involving partitioning	3.2.e.1 Add and subtract numbers with up to three digits, using formal columnar methods of addition and subtraction	4.2.e.1 Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	5.2.e.1 Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	6.2.e.1 Consolidate adding and subtracting whole numbers with more than 4 digits, including using formal written columnar addition and subtraction
	Explore the composition of numbers to 10. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly. 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.	1.2.e.2 Use arrays to represent multiplication and record grouping when doing division	2.2.e.2 Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals (=) signs	3.2.e.2 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	4.2.e.2 Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	5.2.e.2 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	6.2.e.2 Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
					4.2.e.3 Divide two-digit and three-digit numbers by a one-digit number using formal written layout	5.2.e.3 Divide numbers up to 4 digits by a one-digit number using formal written method of short division and interpret remainders appropriately for the context	6.2.e.3 Divide numbers up to 4 digits by a two-digit whole number using the formal methods of short or long division, and interpret remainders as appropriate for the context as whole numbers, fractions or by rounding

# Calculation Progression

f) Check			2.2.f.1 Check subtraction calculations using addition calculations by adding in a different order	3.2.f.1 Check addition calculations using subtraction and addition and subtraction calculations using rounding	4.2.f.1 Check answers to addition and subtraction calculations by estimating and using inverse operations	5.2.f.1 Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	6.2.f.1 Check answers to calculations with mixed operations and large numbers, choosing the most appropriate method, including estimation, and determining, in the context of a problem, an appropriate degree of accuracy
					4.2.f.2 Check answers to multiplication and division calculations using rounding	5.2.f.2 Check answers to calculations and to multiplication and division calculations using the inverse	6.2.f.2 Check answers to calculations with all four operations involving any numbers by rounding



# Fractions, Decimals and Percentages Progression

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
3) Fractions, decimals and Percentages	a) Understand FDP	1.3.a.1 Recognise, find and name a half as one of two equal parts of an object, shape or quantity	2.3.a.1 Recognise, find, name and write fractions $\frac{1}{3}$ and $\frac{1}{4}$ of a length, shape, set of objects or quantity	3.3.a.1 Recognise, find and write fractions of a discrete set of objects, unit fractions with small denominators	4.3.a.1 Make connections between fractions of a length, of a shape and as a representation of one whole or a set of quantities	5.3.a.1 Write mathematical statements $> 1$ as a mixed number	6.3.a.1 Associate a fraction with division
		1.3.a.2 Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	2.3.a.2 Recognise, find, name and write fractions $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	3.3.a.2 Recognise, find and write fractions of a discrete set of objects, non-unit fractions with small denominators	4.3.a.2 Use factors and multiples to recognise equivalent fractions and simplify where appropriate	5.3.a.2 Continue to apply their knowledge of multiplication table facts to find equivalent fractions	6.3.a.2 Consolidate understanding of equivalent fractions by extending to improper fractions
				3.3.a.3 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	4.3.a.3 Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	5.3.a.3 Recognise and use thousandths and relate them to tenths and hundredths	6.3.a.3 Identify the value of each digit in numbers given to three decimal places
					4.3.a.4 Divide a one- or two-digit numbers by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	5.3.a.3 Divide one- or two-digit numbers by 1000, identifying the value of the digits in the answer as ones, tenths, hundredths and thousandths	6.3.a.4 Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
						5.3.a.4 Recognise the per cent symbol and understand that per cent relates to 'number of parts per hundred'	6.3.a.5 Consolidate recognition of the per cent symbol and understanding that per cent relates to 'number of parts per hundred'
	b) Convert FDP		2.3.b.1 Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	3.3.b.1 Recognise and show, using diagrams, equivalent fractions with small denominators	4.3.b.1 Recognise and show, using diagrams, families of common equivalent fractions	5.3.b.1 Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	6.3.b.1 Use common factors to simplify fractions
				3.3.b.2 Connect tenths to decimal measures and place value	4.3.b.2 Recognise that the denominator of a fraction always tells you the number of equal parts that make one whole	5.3.b.2 Recognise mixed numbers and improper fractions and convert from one form to the other	6.3.b.2 Use common multiples to express fractions in the same denomination
					4.3.b.3 Recognise and write decimal equivalents of any number of tenths or hundredths and $\frac{1}{4}$ ; $\frac{1}{2}$ ; $\frac{3}{4}$	5.3.b.3 Relate thousandths to decimal equivalents	6.3.b.3 Consolidate understanding of the relation between tenths, hundredths and thousandths and decimal notation
						5.3.b.4 Read and write decimal numbers as fractions	6.3.b.4 Calculate decimal fraction equivalents for a simple fraction



# Fractions, Decimals and Percentages Progression

c) Use FDP as numbers					5.3.b.5 Write percentages as a fraction with denominator hundred, and as a decimal	6.3.b.5 Consolidate understanding of the connection between fractions, decimals and percentages
					5.3.b.6 Know percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25	6.3.b.6 Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
		2.3.c.1 Write simple fractions	3.3.c.1 Compare and order unit fractions, and fractions with the same denominators	4.3.c.1 Continue to compare and order unit fractions, and fractions with the same denominators	5.3.c.1 Compare and order fractions whose denominators are all multiples of the same number	6.3.c.1 Compare and order fractions, including fractions > 1
			3.3.c.2 Add and subtract fractions with the same denominator within one whole [for example 5/7 + 1/7 = 6/7]	4.3.c.2 Add and subtract fractions with the same denominator	5.3.c.2 Add and subtract fractions with the same denominator and denominators that are multiples of the same number, including calculations > 1	6.3.c.2 Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
			3.3.c.3 Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	4.3.c.3 Understand the relation between non-unit fractions and multiplication and division of quantities	5.3.c.3 Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	6.3.c.3 Multiply simple pairs of proper fractions
				4.3.c.4 Rounds decimals with one decimal place to the nearest whole number	5.3.c.4 Round decimals with two decimal places to the nearest whole number and to one decimal place	6.3.c.4 Divide proper fractions by whole numbers
				4.3.c.5 Compares numbers with the same number of decimal places up to two decimal places	5.3.c.5 Read, write, order and compare numbers with up to three decimal places	6.3.c.5 Round decimals to three decimal places or other approximations depending on the context
					5.3.c.6 Add and subtract decimals including those with a different number of decimal places	6.3.c.6 Use written division methods in cases where the answer has up to two decimal places
						6.3.c.7 Multiply one-digit numbers with up to two decimal places by whole numbers

# Fractions, Decimals and Percentages Progression

d) Solve FDP problems			3.3.d.1 Solve problems with fractions from the Year 3 curriculum	4.3.d.1 Solve problems involving harder fractions to calculate and divide quantities, including non-unit fractions where the answer is a whole number	5.3.d.1 Solve a variety of problems involving fractions	6.3.d.1 Multiply a quantity that represents a unit fraction to find the whole quantity
				4.3.d.2 Solve simple measure and money problems involving fractions and decimals to two decimal places	5.3.d.2 Solve problems involving addition and subtraction involving numbers up to three decimal places	6.3.d.2 Solve problems which require decimal answers to be rounded to specified degrees of accuracy
					5.3.d.3 Solve problems which require knowing key percentage and decimal equivalents	6.3.d.3 Solve problems with FDP from the Year 6 curriculum

# Measure Progression

	Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1) Understand units of measure	Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...'	1.1.1 Sequence events in chronological order using language	2.1.1 Compare and sequence intervals of time	3.1.1 Convert between analogue and 12-hour digital clocks	4.1.1 Read, write and convert time between analogue and digital 12- and 24-hour clocks	5.1.1 Continue to develop understanding of how analogue and digital clocks tell the time	6.1.1 Continue to develop understanding of how analogue and digital clocks tell the time
		1.1.2 Recognise and use language relating to dates, including days of the week, weeks, months and years	2.1.2 Know the number of minutes in an hour and the number of hours in a day	3.1.2 Know the number of seconds in a minute and the number of days in each month, year and leap year	4.1.2 Convert from larger to smaller units of time	5.1.2 Continue to practise converting between units of time	6.1.2 Consolidate understanding of converting between units of time
		1.1.3 Recognise and know the value of different denominations of coins and notes	2.1.3 Recognise and use symbols for pounds (£) and pence (p)	3.1.3 Become confident in exchanging between £ and p when handling money	4.1.3 Record money using decimal notation	5.1.3 Develop fluency in using money expressed in £, converting to p when necessary	6.1.3 Consolidate fluency in using money expressed in £ and p
		1.1.4 Use non-standard units to measure length, mass and capacity	2.1.4 Compare and order measurements and record the results using >, < and = as well as simple multiples	3.1.4 Record measurements using mixed units, e.g. 1 kg 200 g	4.1.4 Convert from larger to smaller units of metric measure	5.1.4 Convert between different units of metric measure	6.1.4 Use, read and write standard units with up to three decimal places, including converting from smaller to larger units and vice versa
					4.2.1 Read time from analogue and digital 12- and 24-hour clocks	5.1.5 Understand and use approximate equivalences between metric units and common imperial units	6.1.5 Convert between miles and kilometres and use a conversion graph
					4.2.2 Write time from analogue and digital 12- and 24-hour clocks	5.1.6 Understand the difference between perimeter as a measure of length and area as a measure of two-dimensional space	6.1.6 Recognise that shapes with the same areas can have different perimeters and vice versa
2) Make measurements		1.2.1 Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	2.2.1 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	3.2.1 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	4.2.3 Estimate and compare different measures, including money	5.2.1 Continue to become fluent in telling the time	6.2.1 Consolidate fluency in working with time
		1.2.2 Measure and begin to record time (hours, minutes, seconds)	2.2.2 Record the time on an analogue clock in words	3.2.2 Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	4.2.4 Measure the perimeter of a rectilinear figure	5.2.2 Continue to become fluent in writing the time	6.2.2 Consolidate fluency in recording the time



# Measure Progression

	Make comparisons between objects relating to size, length, weight and capacity. Compare length, weight and capacity.	1.2.3 Measure and begin to record lengths and heights, mass/weight, capacity and volume	2.2.3 Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	3.2.3 Continue to choose the appropriate tools and units when measuring, selecting from a wider range of measures	4.2.5 Find the area of rectilinear shapes by counting squares and relate it to multiplication arrays	5.2.3 Continue to estimate and compare different measurements	6.2.3 Continue to measure and compare using different standard units of measure
				3.2.4 Measure the perimeter of simple 2-D shapes		5.2.4 Measure the perimeter of composite rectilinear shapes	6.2.4 Consolidate skills in identifying and measuring perimeter
						5.2.5 Estimate the area of irregular shapes and volume and capacity	6.2.5 Estimate volume of cubes and cuboids
3) Solve measurement problems		1.3.1 Compare, describe and solve practical problems for time	2.3.1 Calculate time intervals and develop a sense of the length of different units of time	3.3.1 Compare durations of events [for example to calculate the time taken by particular events or tasks]	4.3.1 Solve measurement problems	5.3.1 Solve problems involving converting between units of time	6.3.1 Consolidate skills in solving problems converting between units of time
		1.3.2 Begin to handle coins and become familiar with coins up to 20 pence	2.3.2 Combine amounts of money to make a particular value including different combinations of coins that equal the same amount of money	3.3.2 Continue to solve problems involving combinations of coins and notes	4.3.2 Calculate with different measures	5.3.2 Become familiar with temperature measure using degrees Celsius, realising that the scale becomes negative below the freezing point of water	6.3.2 Add and subtract positive and negative measurements such as temperature
		1.3.3 Compare, describe and solve practical problems for lengths and heights, mass or weight and capacity/volume	2.3.3 Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	3.3.3 Add and subtract amounts of money to give change, recording £ and p separately	4.3.3 Calculate with money in pounds and pence	5.3.3 Solve problems involving money, using the four operations	6.3.3 Continue to solve problems involving money using the four operations
			2.3.4 Solve problems involving comparing measures of length, mass and capacity/volume	3.3.4 Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	4.3.4 Continue to solve problems involving mixed units of length, mass and capacity/volume	5.3.4 Solve measurement problems using all four operations and decimal notation, including scaling and conversions	6.3.4 Solve measurement problems with decimal notation up to three decimal places and approximate equivalences between metric and imperial measurements
				3.3.5 Measure the distance around shapes in the classroom and outside environment	4.3.5 Calculate the perimeter of a rectilinear figure	5.3.5 Calculate the perimeter of composite rectilinear shapes	6.3.5 Consolidate skills in calculating perimeter
						5.3.6 Calculate and compare the area of rectangles	6.3.6 Calculate the area of parallelograms and triangles
							6.3.7 Recognise when it is possible to use formulae for area and volume of shapes
							6.3.8 Calculate and compare volume of cubes and cuboids using standard units

# Geometry Progression

Geometry	1) Make and visualise shapes	Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				2.1.1 Draw lines and shapes using a straight edge	3.1.1 Draw 2-D shapes with straight sides measured in cm	4.1.1 Complete a simple symmetric figure with respect to a specific line of symmetry, and measure angles using a protractor	5.1.1 Draw given angles, and measure them in degrees (*) and draw shapes with sides measured to the nearest millimetre	6.1.1 Draw 2-D shapes accurately using given dimensions and angles
				2.1.2 Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]	3.1.2 Make 3-D shapes using modelling materials	4.1.2 Identify lines of symmetry in 2-D shapes presented in different orientations, including where the line of symmetry does not dissect the original shape	5.1.2 Use conventional markings for parallel lines and right angles	6.1.2 Use conventional markings and labels for lines and angles
						4.1.3 Continue to recognise 3-D shapes, using the correct language	5.1.3 Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	6.1.3 Build simple 3-D shapes, including making nets
	2) Classify shapes	<p>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'.</p> <p>Select, rotate and manipulate shapes in order to develop spatial reasoning skills</p>	1.2.1 Recognise common 2-D shapes in different orientations and sizes i.e. including rectangles (including squares), circles and triangles	2.2.1 Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]	3.2.1 Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	4.2.1 Compare and classify geometric shapes, including different types of quadrilaterals and triangles, based on their properties and sizes	5.2.1 Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	6.2.1 Compare and classify geometric shapes based on increasingly complex geometric properties and sizes
		<p>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'.</p> <p>Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.</p>	<p>1.2.2 Name common 2-D shapes in different orientations and sizes i.e. including rectangles (including squares), circles and triangles</p> <p>1.2.3 Recognise and name common 3-D shapes in different orientations and sizes i.e. including cuboids (including cubes), pyramids and spheres</p>	<p>2.2.2 Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</p> <p>2.2.3 Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</p>	<p>3.2.2 Describe 2-D shapes using accurate language, including lengths of lines and angles greater or less than a right angle</p> <p>3.2.3 Recognise 3-D shapes in different orientations and describe them</p>	<p>4.2.2 Use the vocabulary of the different types of triangle and quadrilateral</p> <p>4.2.3 Continue to make and classify 3-D shapes, including by the 2-D shapes that form their surface</p>	<p>5.2.2 Use the term diagonal</p> <p>5.2.3 Continue to make and classify 3-D shapes, including identifying all of the 2-D shapes that form their surface</p>	<p>6.2.2 Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter of a circle is twice the radius</p> <p>6.2.3 Recognise 3-D shapes from their nets</p>

# Geometry Progression

	3) Solve shape problems				3.3.1 Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn	4.3.1 Identify acute and obtuse angles	5.3.1 Identify angles at a point and one whole turn, angles at a point on a straight line and $\frac{1}{2}$ a turn and other multiples of $90^\circ$	6.3.1 Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
					3.3.2 Identify whether angles are greater than or less than a right angle	4.3.2 Compare and order angles up to two right angles by size	5.3.2 Estimate and compare acute, obtuse and reflex angles	6.3.2 Check solutions to missing angle problems by estimating
					3.3.3 Recognise angles as a property of shape or a description of a turn	4.3.3 Continue to identify types of angles and to reason about their sizes	5.3.3 Use the properties of rectangles to deduce related facts and find missing lengths and angles	6.3.3 Find unknown angles and lengths in triangles, quadrilaterals, and regular polygons
	4) Describe position		1.4.1 Describe position using everyday language e.g. top, middle, bottom, in front of, between, near, inside	2.4.1 Use mathematical vocabulary to describe position	3.4.1 Mark a given square on a grid, e.g. A3	4.4.1 Describe positions on a 2-D grid as coordinates in the first quadrant	5.4.1 Continue to use coordinates in the first quadrant to become fluent in their use	6.4.1 Use positions on the full coordinate grid (all four quadrants)
			1.4.2 Recognise and create simple repeating patterns with objects and shapes	2.4.2 Order and arrange combinations of mathematical objects in patterns and sequences	3.4.2 Continue to recognise and devise patterns and sequences in shapes	4.4.2 Plot specified points and draw sides to complete a given polygon	5.4.2 Identify the points required to complete a polygon	6.4.2 Draw and label rectangles (including squares), parallelograms and rhombuses specified by coordinates in the four quadrants, predicting missing coordinates using the properties of shapes
	5) Describe movement		1.5.1 Describe movement in straight lines using everyday language and describe turns, including half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face	2.5.1 Use mathematical vocabulary to describe movement, including movement in a straight line	3.5.1 Give and follow multi-step directions in own environment	4.5.1 Describe movement between positions as translations of a given unit to the left/right and up/down	5.5.1 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.	6.5.1 Draw and translate simple shapes on the coordinate plane, and reflect them in the axes



# Statistics Progression

Statistics	1) Interpret data	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			2.1.1 Interpret data from simple pictograms, tally charts, block diagrams and simple tables	3.1.1 Interpret bar charts, pictograms and tables	4.1.1 Interpret discrete and continuous data using appropriate graphical methods, including time graphs	5.1.1 Interpret line graphs	6.1.1 Interpret data in pie charts
	2) Present data					5.1.2 Interpret more complex tables, including timetables	6.1.2 Consolidate skills in interpreting more complex tables, including timetables
			2.2.1 Present data in simple tables, simple pictograms, tally charts and block diagrams	3.2.1 Present data in bar charts, pictograms and tables	4.2.1 Present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	5.2.1 Decide the best way to present given data	6.2.1 Present data using pie charts and line graphs
	3) Solve data problems		2.3.1 Ask and answer questions about totalling and comparing categorical data	3.3.1 Solve problems with one or two steps using scaled bar charts, pictograms and tables	4.3.1 Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	5.3.1 Solve comparison, sum and difference problems using information presented in a line graph	6.3.1 Solve problems using pie charts and line graphs
			2.3.2 Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	3.3.2 Continue to count the number of objects in each category and sort the categories by quantity	4.3.2 Begin to solve problems involving information presented in tables	5.3.2 Solve problems using information in tables, including timetables	6.3.2 Calculate and interpret the mean as an average

# Ratio Progression

Ratio

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ratio				<p>4.1.1 Solve calculation problems involving multiplying and adding, including integer scaling and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects.</p> <p>LINK: Number 4.2.c.1</p>	<p>5.1.1 Multiply numbers up to 4 digits by a one- or two-digit number using a formal method, including long multiplication for two-digit numbers and divide numbers up to 4 digits by a one-digit number using formal short division, interpreting non-integer answers to division according to context</p> <p>LINK: Number 5.2.e.2</p>	<p>6.1.1 Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</p>
					<p>5.1.2 Recognise the per cent symbol and understand that per cent relates to 'number of parts per hundred'</p> <p>LINK: Number 5.3.a.3</p>	<p>6.1.2 Solve problems involving the calculation of percentages and the use of percentages for comparison</p>
					<p>5.1.3 Use multiplication and division as inverses</p>	<p>6.1.3 Solve problems involving similar shapes where the scale factor is known or can be found</p>
					<p>5.1.4 Solve calculation problems involving scaling by simple fractions and simple rates</p> <p>LINK: Number 5.2.c.2</p>	<p>6.1.4 Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</p>

# Algebra Progression

Algebra		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	1) Understand formulae				4.1.2 Use the distributive law and associative law to perform mental calculations	5.1.1 Express missing measure questions algebraically	6.1.1 Express missing number problems algebraically
						5.1.2 Distributivity can be expressed as $a(b + c) = ab + ac$	6.1.2 Use simple formulae
	2) Solve algebra problems					5.2.1 Find all factor pairs of a number	6.2.1 Find pairs of numbers that satisfy an equation with two unknowns
						LINK: Number 5.2.d.2	6.2.2 Enumerate possibilities of combinations of two variables
	3) Describe sequences					5.1.1 Express missing measure questions algebraically	6.3.1 Generate and describe linear number sequences