

Place Value

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Subitise (recognise without counting) up to 5.</p> <p>Count objects, actions and sounds.</p>	<p>1NPV-1 Count within 100, forwards and backwards, starting with any number.</p>	<p>2NPV-1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning.</p>	<p>3NPV-1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three digit multiples of 10.</p>	<p>4NPV-1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.</p>	<p>5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.</p>	<p>6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).</p>
<p>Deep understanding of each number to 10, including the composition of each number to 10.</p> <p>Explore the composition of numbers to 10.</p> <p>Compare numbers to 10.</p>	<p>1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using $<$ $>$ and $=$</p>	<p>2NPV-2 Reason about the location of any two digit number in the linear number system, including identifying the previous and next multiple of 10.</p>	<p>3NPV-2 Recognise the place value of each digit in <i>three</i>-digit numbers, and compose and decompose <i>three</i>-digit numbers using standard and non-standard partitioning.</p>	<p>4NPV-2 Recognise the place value of each digit in <i>four</i>-digit numbers, and compose and decompose <i>four</i>-digit numbers using standard and nonstandard partitioning.</p>	<p>5NPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning.</p>	<p>6NPV-2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.</p>
<p>Verbally count beyond 20, recognising the pattern of the counting system.</p> <p>Count beyond 10.</p> <p>Count objects, actions and sounds.</p>	<p>Given a number, identify one more and one less.</p>	<p>Recognise the place value of each digit in a two digit number. Compare and order numbers from 0 to 100; use $<$ $>$ $=$ signs.</p>	<p>3NPV-3 Reason about the location of any <i>three</i> digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.</p>	<p>4NPV-3 Reason about the location of any <i>four</i> digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.</p>	<p>5NPV-3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.</p>	<p>6NPV-3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.</p>
<p>Compare quantities up to 10 in different contexts, recognising when quantity is greater, less or the same as another quantity.</p>	<p>Use the language of equal, more than, less than, fewer, least, most.</p>	<p>Read and write numbers to at least 100 in numerals and words.</p>	<p>3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.</p>	<p>4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.</p>	<p>5NPV-4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.</p>	<p>6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.</p>
<p>Link the numeral symbol with its cardinal number value.</p>	<p>Identify and represent number using objects and pictorial representations including the number line.</p>		<p>Read and write numbers to at least 1000 in numerals and words.</p>		<p>5NPV-5 Convert between units of measure, including using common decimals and fractions.</p>	

Number Facts

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Recall number bonds to 5 including subtraction facts.	1NF-1 Develop fluency in addition and subtraction facts within 10.	2NF-1 Secure fluency in addition and subtraction facts within 10, through continued practice.	3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	4NF-1 Recall multiplication and division facts up to 12×12 , and recognise products in multiplication tables as multiples of the corresponding number.	5NF-1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.	
Begin to recall number bonds up to 10 including doubling facts. Automatically recall number bonds for numbers to 0 to 10.	1NF-2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	3NF-2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	4NF-2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.	5NF-2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	
Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.			3NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).	4NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)		
			Identify, represent and estimate numbers using different representations.			

Addition and Subtraction

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understand the one more/one less than relationship between consecutive numbers.	1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	2AS-1 Add and subtract across 10.	3AS-1 Calculate complements to 100.			6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).
	1AS-2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.	2AS-2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?".	3AS-2 Add and subtract up to three-digit numbers using columnar methods.	4 AS-2 Add and subtract up to four-digit numbers using columnar methods.	5AS-2 Add and subtract whole numbers with more than four digits numbers using columnar methods.	6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.
	Add and subtract one digit and two digit numbers to 20, including zero.	2AS-3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two digit number. Show that addition of two numbers can be done in any order and subtraction of one number cannot.	3AS-3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.			6AS/MD-3 Solve problems involving ratio relationships.
	Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.	2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two digit numbers.	Estimate the answer to a calculation and use inverse operations to check answers.			6AS/MD-4 Solve problems with 2 unknowns.

Multiplication and Division

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Count in multiples of twos, fives and tens.	2MD-1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.	3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	4MD-1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.	5MD-1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.	6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).
	Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the teachers support.	2MD-2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	Recall and use multiplication and division facts for the 3,4 and 8 multiplication timetables.	4MD-2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.	5MD-2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.	6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.
		Show that multiplication of two numbers can be done in any order and division of one number by another cannot.	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including two digit numbers times one digit numbers, using mental methods and progressing to formal written methods.	4MD-3 Understand and apply the distributive property of multiplication.	5MD-3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.	6AS/MD-3 Solve problems involving ratio relationships.
		Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals symbols.			5MD-4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.	6AS/MD-4 Solve problems with 2 unknowns.

Fractions

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Recognise, find and name a half as one of two equal parts of an object, shape or quantity.	Recognise the name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity.	3F-1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.	4F-1 Reason about the location of mixed numbers in the linear number system.	5F-1 Find non-unit fractions of quantities.	6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions.
	Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	Write simple fractions e.g. $\frac{1}{2}$ of 6 = 3	3F-2 Find unit fractions of quantities using known division facts (multiplication tables fluency).	4F-2 Convert mixed numbers to improper fractions and vice versa.	5F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.	6F-2 Express fractions in a common denomination and use this to compare fractions that are similar in value.
			3F-3 Reason about the location of any fraction within 1 in the linear number system.	4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.	5F-3 Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$, and for multiples of these proper fractions.	6F-3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.
			3F-4 Add and subtract fractions with the same denominator, within 1.			
			Compare and order unit fractions, and fractions with the same denominators.			

Geometry

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Compare length, weight, and capacity.	1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.	2G-1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.	3G-1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.	4G-1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.	5G-1 Compare angles, estimate and measure angles in degrees ($^{\circ}$) and draw angles of a given size.	6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.
Compose and decompose shapes so that children recognise a shape can other shapes within it, just as numbers can.	1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	Compare and sort common 2d and 3d shapes and everyday objects.	3G-2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.	5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units.	
Select, rotate and manipulate shapes in order to develop spatial reasoning skills.	Describe position, direction and movement including half, quarter and three quarter turns.	Use mathematical vocabulary to describe position, direction and movement including straight line and distinguishing between rotation as a turn in terms of right angles for quarter, half and three quarter turns.	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.			
Continue, copy and create repeating patterns.		Order and arrange combinations of mathematical objects in patterns and sequences.				
		Understand clockwise and anti clockwise.				