The Willows Primary School

Progression in Maths

NUMBER AND PLACE VALUE						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Begin to develop a sense of the number system by verbally counting forward to and beyond 20, pausing at each multiple of 10. Identify the counting pattern in our number system: 1-9 then a multiple of 10 + 1-9 which is repeated.	1NPV–1 - Count within 100, forwards and backwards, starting with any number.	-	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.	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.	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.	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).
Explore the composition of numbers up to 10 Subitise up to 5 (recognise an amount without counting)	1 NPV * Know that 10 ones are equivalent to 1 ten. Know that multiples of 10 are made up from a number of tens, for example, 50 is 5 tens (Y1).	- 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	3NPV–2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.	4NPV–2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and nonstandard partitioning.	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.	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. -

Play games that involve moving along a numbered track, and understand that larger numbers are further along the track. Place the numbers 1 to 9 on a marked, but unlabelled, 0 to 10 number line. Compare numbers up to 10 Verbally counting to 20 and recognize the pattern of the counting system	1NPV–2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =	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.	3NPV–3 Reason about the location of any three digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.	4NPV–3 Reason about the location of any four 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.	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.	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.
Count in multiples of 2, 5 and 10 (Y1). Reason about numbers within a linear number system and place numbers on a number line.			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.	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.	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.	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.

					5NPV–5 Convert between units of measure, including using common decimals and fractions.	

NUMBER FACTS						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Begin to experience partitioning and combining numbers within 10. Recall number bonds up to 5 including subtraction facts	**1NF–1** Develop fluency in addition and subtraction facts within 10. *Number bonds to 10, +/-1, +/-2, +/- 0, doubles to 5, half even numbers to 10, facts without a family.*	**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.	-		-
Distribute items fairly, for example, put 3 marbles in each bag. Recognise when items are distributed unfairly. Grouping objects by a given criteria, for example group 12 objects into 2s Explore and recognise patterns with number up 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.		**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–1** Recall multiplication and division facts up to 12 x 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.	-
Use known division facts to solve division problems (Y3)				**4NF–2** Solve division problems, with two-digit dividends and one-digit divisors, that		-

Explore how quantities can be distributed equally				involve remainders, and interpret remainders appropriately according to the context.		
Automatically recall addition and subtraction facts within 10, and across 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten. (Y2)			**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)	**5NF–2** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	-

ADDITION AND SUBTRACTION						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Understand the cardinal value of number words, for example understanding that 'four' relates to 4 objects. Subitise for up to 5 items. Automatically show a given number using fingers. Understand the composition of numbers up to 5.	**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).
Devise and record number stories, using pictures, numbers and symbols (such as arrows).	**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.			**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 within 10. Know that a multiple of 10 is made up from a number of tens, for example, 50 is 5 tens. (Y1)		**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.	**3AS–3** Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate			**6AS/MD–3** Solve problems involving ratio relationships.

			to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction			
Add and subtract within 10. Know that a multiple of 10 is made up from a number of tens, for example, 50 is 5 tens. (Y1)		**2AS–4** Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two digit numbers				**6AS/MD–4** Solve problems with 2 unknowns.

MULTIPLICATION AND DIVISION						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Count in multiples of 2, 5 and 10. (Y1) Explore and present patterns within numbers to 10 including odd and evens.		**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).
Count in multiples of 2, 5 and 10 to find how many groups of 2, 5 or 10 there are in a particular quantity, set in everyday contexts. (Y1)		**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).		**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.
Recall multiplication and division facts up to 12 x 12. Manipulate multiplication and division equations. Apply conservation and partitioning knowledge				**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.

Recall multiplication and division facts up to 12 x 12. Manipulate multiplication and division equations. Solve division problems, with two-digit dividends and one digit divisors, that involve remainders, for example: and interpret remainders appropriately according to the context.					**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	Y1	Y2	Y3	Y4	Y5	Y6
Sharing into equal parts , real life contexts Halving shapes and quantities			**3F–1** Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.			**6F–1** - Recognise when fractions can be simplified, and use common factors to simplify fractions.
Multiplication and division facts Sharing equally			**3F–2** Find unit fractions of quantities using known division facts (multiplication tables fluency).		**5F–1** Find non-unit fractions of quantities.	**6F–2** Express fractions in a common denomination and use this to compare fractions that are similar in value.
Reason about the location of whole numbers in the linear number system.			**3F–3** Reason about the location of any fraction within 1 in the linear number system.	**4F–1** Reason about the location of mixed numbers in the linear number system.		**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.

				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.	
Automatically recall addition and subtraction facts within 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten, and that these units can be added and subtracted. (y2)			**3F–4** Add and subtract fractions with the same denominator, within 1.	**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.	

GEOMETRY						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
See, explore and discuss models of common 2D and 3D shapes with varied dimensions and presented in different orientations (for example, triangles not always presented on their base).	**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.		**5G–1** Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.	
Compose polygons from smaller shapes. Recall multiplication facts up to 12 x 12 (Y4)					**5G–2** Compare areas and calculate the area of rectangles (including squares) using standard units.	
Select, rotate and manipulate shapes for a particular purpose, for example: • rotating a cylinder so it	**1G–2** Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating		**3G–2** Draw polygons by joining marked points, and identify parallel and perpendicular sides.	**4G–1** Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.		**6G–1** Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems

can be used to build a tower • rotating a puzzle piece to fit in its place	shapes to place them in particular orientations.					
Identifying 2d shapes Measure lines in centimetres and metres. Add more than 2 addends. Recall multiplication table facts (Y3)				**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.		
Everyday experiences with patterns, looking in the mirror, artwork.				**4G–3** Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry		