



Mathematics at St Mary's Catholic Primary

	TERM 1	TERM 2	TERM 3
NURSERY	<p>Number</p> <ul style="list-style-type: none"> - Knows that things exist, even when out of sight. - Beginning to organise and categorise objects, e.g. putting all the teddy bears together or teddies and cars in separate piles. -Says some counting words randomly. - Combine objects like stacking blocks and cups. Put objects inside others and take them out again. - Take part in finger rhymes with numbers. - React to changes of amount in a group of up to three items. <p>Shape, space and measure</p> <ul style="list-style-type: none"> - Climb and squeezing selves into different types of spaces. - Build with a range of resources. - Attempts, sometimes successfully, to fit shapes into spaces on inset boards or jigsaw puzzles. - Use blocks to create own simple structures and arrangements - Enjoy filling and emptying containers. - Begin to understand that things might happen 'now'. 	<p>Number</p> <ul style="list-style-type: none"> - Compare amounts, saying 'lots', 'more' or 'same'. - Counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. - Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.' - Selects a small number of objects from a group when asked, for example 'please give me one', 'please give me two' - Recites some number names in sequence. - Creates and experiments with symbols and marks representing ideas of number - Begins to make comparisons between quantities. - Uses some language of quantities, such as 'more' and 'a lot' - Knows that a group of things changes in quantity when something is added or taken away. <p>Shape , space and measure</p> <ul style="list-style-type: none"> - Select, rotate and manipulate shapes in order to develop spatial reasoning. - Complete inset puzzles. - Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'. - Notice patterns and arrange things in patterns. - Notices simple shapes and patterns in pictures -Beginning to categorise objects according to properties, such as shape or size. 	<p>Number</p> <ul style="list-style-type: none"> - Fast recognition of up to 3 objects, without having to count them individually ('subitising'). - 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'). - Show 'finger numbers' up to 5. - 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. - Solve real world mathematical problems with numbers up to 5. - Compare quantities using language: 'more than', 'fewer <p>Shape, space and measure</p> <ul style="list-style-type: none"> -Select, rotate and manipulate shapes in order to develop spatial reasoning. - 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'. - Understand position through words alone – for example, "The bag is under the table," – with no pointing. - Describe a familiar route. - Discuss routes and locations, using words like 'in front of' and 'behind'.

		<ul style="list-style-type: none"> - Begins to use the language of size. - Understands some talk about immediate past and future, e.g. 'before', 'later' or 'soon' - Anticipates specific time-based events, such as mealtimes or home time 	<ul style="list-style-type: none"> - Make comparisons between objects relating to size, length, weight and capacity. -Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. - Combine shapes to make new ones – an arch, a bigger triangle etc. -Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal than' language like 'pointy', 'spotty', 'blobs' etc. - Extend and create ABAB patterns – stick, leaf, stick, leaf. - Notice and correct an error in a repeating pattern. - Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'
	AUTUMN	SPRING	SUMMER
RECEPTION	<p>Pupils will build on previous experiences of number from their home and nursery environments, and further develop their subitising and counting skills. They will explore the composition of numbers within 5. They will begin to compare sets of objects and use the language of comparison.</p> <p>Number</p> <ul style="list-style-type: none"> -identify when a set can be subitised and when counting is needed -subitise different arrangements, both unstructured and structured, including using the Hungarian number frame -make different arrangements of numbers within 5 and talk about what they can see, to develop their conceptual subitising skills -connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers 	<p>Pupils will continue to develop their subitising and counting skills and explore the composition of numbers within and beyond 5. They will begin to identify when two sets are equal or unequal and connect two equal groups to doubles. They will begin to connect quantities to numerals.</p> <p>Number</p> <ul style="list-style-type: none"> - continue to develop their subitising skills for numbers within and beyond 5, and increasingly connect quantities to numerals -spot smaller numbers 'hiding' inside larger numbers - begin to identify missing parts for numbers within 5 -explore the structure of the numbers 6 and 7 as '5 and a bit' and connect this to finger patterns and the Hungarian number frame - focus on equal and unequal groups when comparing numbers 	<p>Pupils will consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. They will secure knowledge of number facts through varied practice.</p> <p>Number</p> <ul style="list-style-type: none"> -continue to develop their counting skills, counting larger sets as well as counting actions and sounds -join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers -explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame - compare quantities and numbers, including sets of objects which have different attributes -continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2

	<p>-hear and join in with the counting sequence, and connect this to the 'staircase' pattern of the counting numbers, seeing that each number is made of one more than the previous number</p> <ul style="list-style-type: none"> - develop counting skills and knowledge, including: that the last number in the count tells us 'how many' (cardinality); to be accurate in counting, each thing must be counted once and once only and in any order; the need for 1:1 correspondence; understanding that anything can be counted, including actions and sounds - compare sets of objects by matching - begin to develop the language of 'whole' when talking about objects which have parts <p>Shape</p> <ul style="list-style-type: none"> - Composing and decomposing shapes - 2D shape - 3D shape -Make Simple Patterns 	<ul style="list-style-type: none"> - understand that two equal groups can be called a 'double' and connect this to finger patterns - sort odd and even numbers according to their 'shape' -continue to develop their understanding of the counting sequence and link cardinality and ordinality through the 'staircase' pattern -order numbers and play track games <p>Shape</p> <ul style="list-style-type: none"> - Composing and decomposing shapes - 2D shape - 3D shape -Make Simple Patterns -Learn about numbers that make rectangle shapes (arrays) 	<ul style="list-style-type: none"> -begin to generalise about 'one more than' and 'one less than' numbers within 10 - continue to identify when sets can be subitised and when counting is necessary - develop conceptual subitising skills including when using a rekenrek <p>Shape</p> <ul style="list-style-type: none"> - Composing and decomposing shapes - 2D shape - 3D shape -Make Simple Patterns -Learn about numbers that make rectangle shapes (arrays)
YEAR 1	<p>Number – number and place value</p> <ul style="list-style-type: none"> - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - given a number, identify one more and one less - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - identify and represent numbers using objects and pictorial representations including the number line, and use the 	<p>Number – number and place value</p> <ul style="list-style-type: none"> - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number (to 20) - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number (to 20) <p>Addition and Subtraction</p> <ul style="list-style-type: none"> - add and subtract one-digit and two-digit numbers to 20, including zero - solve one-step problems that involve addition and subtraction, using concrete 	<p>Multiplication and Division</p> <ul style="list-style-type: none"> -count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens - 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 <p>Fractions</p> <ul style="list-style-type: none"> -recognise, find and name a half as one of two equal parts of an object, shape or quantity <p>Geometry – position and direction</p> <ul style="list-style-type: none"> - describe position, direction and movement, including whole, half, quarter and three-quarter turns

	<p>language of: equal to, more than, less than (fewer), most, least</p> <p>Addition and Subtraction</p> <ul style="list-style-type: none"> - represent and use number bonds and related subtraction facts within 20 - read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs - represent and use number bonds and related subtraction facts within 20 - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ - add and subtract one-digit and two-digit numbers to 20, including zero <p>Geometry - properties of shape</p> <ul style="list-style-type: none"> - recognise and name common 2D and 3D shapes, including: 3D shapes [for example, cuboids (including cubes), pyramids and spheres]. - Recognise and name common 2D and 3D shapes, including: 2D shapes [for example, rectangles (including squares), circles and triangles]. 	<p>objects and pictorial representations, and missing number problems such as $7 = \square - 9$.</p> <p>Number – number and place value</p> <ul style="list-style-type: none"> - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than <p>Measurement</p> <ul style="list-style-type: none"> - compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] - measure and begin to record the following: lengths and heights - compare, describe and solve practical problems for: mass/weight [for example, heavy/light, heavier than, lighter than] - measure and begin to record the following: mass/weight - compare, describe and solve practical problems for: capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] - measure and begin to record the following: capacity and volume 	<ul style="list-style-type: none"> - Pupils use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside - Pupils practise counting (1, 2, 3...), ordering (for example, first, second, third...), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent <p>Number – number and place value</p> <ul style="list-style-type: none"> - count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least - given a number, identify one more and one less <p>Measurement</p> <ul style="list-style-type: none"> - recognise and know the value of different denominations of coins and notes - sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] - recognise and use language relating to dates, including days of the week, weeks, months and years - tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
<p>YEAR 2</p>	<p>Number – number and place value</p> <ul style="list-style-type: none"> - Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - Recognise the place value of each digit in a two-digit number (tens, ones) 	<p>Measurement (money)</p> <ul style="list-style-type: none"> - recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value - find different combinations of coins that equal the same amounts of money 	<p>Statistics</p> <ul style="list-style-type: none"> - interpret and construct simple pictograms, tally charts, block diagrams and simple tables - ask and answer simple questions by counting the number of objects in each

<ul style="list-style-type: none"> - identify, represent and estimate numbers using different representations, including the number line - compare and order numbers from 0 up to 100; use and = signs - count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward <p>Addition and subtraction</p> <ul style="list-style-type: none"> - recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 - add and subtract numbers using concrete objects, pictorial representations, and mentally, including: two two-digit numbers - add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones - count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward - add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and tens - add and subtract numbers using concrete objects, pictorial representations, and mentally, including: two two-digit numbers - solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures <p>Geometry - properties of shape</p> <ul style="list-style-type: none"> -compare and sort common 2D and 3D shapes and everyday objects - identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line 	<ul style="list-style-type: none"> - solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change - recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value <p>Multiplication and Division</p> <ul style="list-style-type: none"> - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts - calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs - recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers <p>Measurement (length and height)</p> <ul style="list-style-type: none"> - choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}$C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels - compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ <p>Measurement (mass, capacity and temperature)</p> <ul style="list-style-type: none"> - compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ - choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}$C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels 	<p>category and sorting the categories by quantity</p> <p>Fractions</p> <ul style="list-style-type: none"> - Recognise, find and name a half as one of two equal parts of an object, shape or quantity - recognise, find, name and write fractions $1/3$, $1/4$, $2/4$ and $3/4$ of a length, shape, set of objects or quantity - write simple fractions for example, $1/2$ of 6 = 3 and recognise the equivalence of $2/4$ and $1/2$ - count in fractions up to 10, starting from any number and using the $1/2$ and $2/4$ equivalence on the number line (for example, $1\ 1/4$, $1\ 2/4$ (or $1\ 1/2$), $1\ 3/4$, 2) <p>Geometry – position and direction</p> <ul style="list-style-type: none"> - use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) <p>Measurement (time)</p> <ul style="list-style-type: none"> - tell the time to the hour and half past the hour and draw the hands on a clock face to show these times - tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times - know the number of minutes in an hour and the number of hours in a day <p>Addition and subtraction</p> <ul style="list-style-type: none"> - use place value and number facts to solve problems - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
---	--	--

	<ul style="list-style-type: none"> - compare and sort common 2-D and 3-D shapes and everyday objects - order and arrange combinations of mathematical objects in patterns and sequences - identify and describe the properties of 3D shapes, including the number of edges, vertices and faces 		<ul style="list-style-type: none"> - solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
YEAR 3	<p>Number – number and place value</p> <ul style="list-style-type: none"> - Recognise the place value of each digit in a two-digit number (tens, ones) - Compare and order numbers up to 1,000 - Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number - Identify, represent and estimate numbers using different representations - Recognise the place value of each digit in a three-digit number (100s, 10s, 1s), <p>Addition and Subtraction</p> <ul style="list-style-type: none"> -Recognise the place value of each digit in a two-digit number (10s, 1s) -add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds -add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction -add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction - estimate the answer to a calculation and use inverse operations to check answers - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction <p>Multiplication and Division</p>	<p>Multiplication and Division</p> <ul style="list-style-type: none"> - 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 - solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects <p>Measurement (Length and perimeter)</p> <ul style="list-style-type: none"> - measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) - measure the perimeter of simple 2D shapes <p>Fractions</p> <ul style="list-style-type: none"> - recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators - compare and order unit fractions, and fractions with the same denominators <p>Measurement (mass)</p> <ul style="list-style-type: none"> - measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) <p>Measurement (capacity)</p> <ul style="list-style-type: none"> - measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) 	<p>Fractions</p> <ul style="list-style-type: none"> - add and subtract fractions with the same denominator within one whole [for example, $5/7 + 1/7 = 6/7$] - solve problems that involve all of the above - recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators - solve problems that involve all of the above <p>Measurement (money)</p> <ul style="list-style-type: none"> -add and subtract amounts of money to give change, using both £ and p in practical contexts <p>Measurement (time)</p> <ul style="list-style-type: none"> - tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks - estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight - compare durations of events [for example to calculate the time taken by particular events or tasks]. <p>Geometry - properties of shape</p> <ul style="list-style-type: none"> - recognise angles as a property of shape or a description of a turn - identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete

	<ul style="list-style-type: none"> - 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 - Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables - solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects 		<ul style="list-style-type: none"> turn; identify whether angles are greater than or less than a right angle - draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them - identify horizontal and vertical lines and pairs of perpendicular and parallel lines - draw 2D shapes and make 3D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them <p>Statistics</p> <ul style="list-style-type: none"> - interpret and present data using bar charts, pictograms and tables
YEAR 4	<p>Number and place value</p> <ul style="list-style-type: none"> - Recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s) - Count in multiples of 6, 7, 9, 25 and 1,000 - Identify, represent and estimate numbers using different representations - Find 1,000 more or less than a given number - Order and compare numbers beyond 1,000 - Round any number to the nearest 10, 100 or 1,000 <p>Addition and Subtraction</p> <ul style="list-style-type: none"> - add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate - estimate and use inverse operations to check answers to a calculation - solve addition and subtraction two- step problems in contexts, deciding which operations and methods to use and why <p>Measurement</p>	<p>Multiplication and Division</p> <ul style="list-style-type: none"> - Recognise and use factor pairs and commutativity in mental calculations - recall multiplication and division facts for multiplication tables up to 12×12 - solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects - multiply two-digit and three-digit numbers by a one-digit number using formal written layout - recognise and use factor pairs and commutativity in mental calculations - multiply two-digit and three-digit numbers by a one-digit number using formal written layout - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers - recognise and use factor pairs and commutativity in mental calculations 	<p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> - recognise and write decimal equivalents of any number of tenths or hundredths - compare numbers with the same number of decimal places up to two decimal places - round decimals with one decimal place to the nearest whole number - recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ <p>Measurement (money)</p> <ul style="list-style-type: none"> -estimate, compare and calculate different measures, including money in pounds and pence <p>Measurement (time)</p> <ul style="list-style-type: none"> - Convert between different units of measure [for example, kilometre to metre; hour to minute] <p>Geometry – properties of shape</p> <ul style="list-style-type: none"> - identify acute and obtuse angles and compare and order angles up to two right angles by size - compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes

	<ul style="list-style-type: none"> - Find the area of rectilinear shapes by counting squares - Estimate, compare and calculate different measures, including money in pounds and pence <p>Multiplication and Division</p> <ul style="list-style-type: none"> - Recall multiplication and division facts for multiplication tables up to 12×12 - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers 	<p>Measurement (Length and perimeter)</p> <ul style="list-style-type: none"> -Convert between different units of measure [for example, kilometre to metre; hour to minute] - measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <p>Fractions</p> <ul style="list-style-type: none"> - counting using simple fractions and decimals, both forwards and backwards - Reason about the location of mixed numbers in the linear number system - Reason about the location of mixed numbers in the linear number system - Convert mixed numbers to improper fractions and vice versa - recognise and show, using diagrams, families of common equivalent fractions - add and subtract fractions with the same denominator - solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> - recognise and write decimal equivalents of any number of tenths or hundredths - find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths 	<ul style="list-style-type: none"> - Identify lines of symmetry in 2D shapes presented in different orientations - complete a simple symmetric figure with respect to a specific line of symmetry <p>Statistics</p> <ul style="list-style-type: none"> - Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs - solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs <p>Geometry – position and direction</p> <ul style="list-style-type: none"> - Describe positions on a 2D grid as coordinates in the first quadrant - plot specified points and draw sides to complete a given polygon - describe movements between positions as translations of a given unit to the left/right and up/down
<p>YEAR 5</p>	<p>Number and place value</p> <ul style="list-style-type: none"> -read Roman numerals to 1000 (M) and recognise years written in Roman numerals -read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit - count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 	<p>Multiplication and Division 2</p> <ul style="list-style-type: none"> - 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 - divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context 	<p>Geometry – properties of shape</p> <ul style="list-style-type: none"> - know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles - draw given angles, and measure them in degrees (o) - identify: -angles at a point and one whole turn (total 360o) -angles at a point on a straight line and 1/2 a turn (total 180o) -other multiples of 90o

<ul style="list-style-type: none"> - read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit - round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10, 000 and 100,000 <p>Addition and subtraction</p> <ul style="list-style-type: none"> - add and subtract numbers mentally with increasingly large numbers - add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) - use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy - estimate and use inverse operations to check answers to a calculation - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <p>Multiplication and division</p> <ul style="list-style-type: none"> - identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers - know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers - recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) - multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 <p>Fractions</p> <ul style="list-style-type: none"> - identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements 	<p>Fractions (including decimals and percentages)</p> <ul style="list-style-type: none"> - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams - read, write, order and compare numbers with up to three decimal places - read and write decimal numbers as fractions [for example, 0.71 = 71/100] - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents - read, write, order and compare numbers with up to three decimal places - round decimals with two decimal places to the nearest whole number and to one decimal place - recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per hundred’, and write percentages as a fraction with denominator 100, and as a decimal - recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per hundred’, and write percentages as a fraction with denominator 100, and as a decimal <p>Measurement</p> <ul style="list-style-type: none"> - measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres - calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes <p>Statistics</p> <ul style="list-style-type: none"> - solve comparison, sum and difference problems using information presented in a line graph 	<ul style="list-style-type: none"> - use the properties of rectangles to deduce related facts and find missing lengths and angles - distinguish between regular and irregular polygons based on reasoning about equal sides and angles - identify horizontal and vertical lines and pairs of perpendicular and parallel lines - identify 3D shapes, including cubes and other cuboids, from 2D representations <p>Geometry – position and direction</p> <ul style="list-style-type: none"> - Describe positions on a 2D grid as coordinates in the first quadrant - 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 - identify lines of symmetry in 2D shapes presented in different orientations - 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 <p>Fractions (including decimals and percentages)</p> <ul style="list-style-type: none"> - solve problems involving number up to three decimal places - read, write, order and compare numbers with up to three decimal places - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents <p>Number and place value</p> <ul style="list-style-type: none"> - interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero <p>Measurement</p> <ul style="list-style-type: none"> - convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and
---	--	---

	<p>> 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 1\ 1/5$]</p> <ul style="list-style-type: none"> - compare and order fractions whose denominators are all multiples of the same number - add and subtract fractions with the same denominator and denominators that are multiples of the same number 	<ul style="list-style-type: none"> - complete, read and interpret information in tables, including timetables 	<p>millimetre; gram and kilogram; litre and millilitre)</p> <ul style="list-style-type: none"> - understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints - solve problems involving converting between units of time - use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling - estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water]
YEAR 6	<p>Number and place value</p> <ul style="list-style-type: none"> - Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit - round any whole number to a required degree of accuracy - use negative numbers in context, and calculate intervals across zero <p>Addition and Subtraction, Multiplication and Division</p> <ul style="list-style-type: none"> - solve addition and subtraction multi- step problems in contexts, deciding which operations and methods to use and why - identify common factors, common multiples and prime numbers - Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) (year 5) - multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - divide numbers up to 4 digits by a two-digit number using the formal written method of short division where 	<p>Ratio and proportion</p> <ul style="list-style-type: none"> - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples - solve problems involving similar shapes where the scale factor is known or can be found <p>Algebra</p> <ul style="list-style-type: none"> - generate and describe linear number sequences - express missing number problems algebraically - find pairs of numbers that satisfy an equation with two unknowns - enumerate possibilities of combinations of two variables <p>Fractions (including decimals and percentages)</p> <ul style="list-style-type: none"> - identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places - solve problems which require answers to be rounded to specified degrees of accuracy - identify the value of each digit in numbers given to three decimal places and multiply 	<p>Statistics</p> <ul style="list-style-type: none"> - interpret and construct pie charts and line graphs and use these to solve problems - calculate and interpret the mean as an average <p>Geometry – properties of shape</p> <ul style="list-style-type: none"> - draw 2D shapes using given dimensions and angles recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles - compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius - draw 2D shapes using given dimensions and angles - recognise, describe and build simple 3D shapes, including making nets <p>Geometry – position and direction</p> <ul style="list-style-type: none"> - describe positions on the full coordinate grid (all four quadrants)

	<p>appropriate, interpreting remainders according to the context</p> <ul style="list-style-type: none"> - use their knowledge of the order of operations to carry out calculations involving the four operations - perform mental calculations, including with mixed operations and large numbers - use their knowledge of the order of operations to carry out calculations involving the four operations <p>Fractions</p> <ul style="list-style-type: none"> - use common factors to simplify fractions; use common multiples to express fractions in the same denomination - compare and order fractions, including fractions > 1 - add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams - multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $1/4 \times 1/2 = 1/8$] - divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$] - add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - use written division methods in cases where the answer has up to two decimal places <p>Measurement</p> <ul style="list-style-type: none"> - use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places 	<p>and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</p> <ul style="list-style-type: none"> - multiply one-digit numbers with up to two decimal places by whole numbers - associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $3/8$] - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts - compare and order fractions, including fractions > 1 - solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <p>Measurement</p> <ul style="list-style-type: none"> - recognise that shapes with the same areas can have different perimeters and vice versa - calculate the area of parallelograms and triangles - recognise when it is possible to use formulae for area and volume of shapes - calculate the area of parallelograms and triangles - recognise that shapes with the same areas can have different perimeters and vice versa - calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3] 	<ul style="list-style-type: none"> - draw and translate simple shapes on the coordinate plane, and reflect them in the axes <p>Problem solving</p> <ul style="list-style-type: none"> - Solve number and practical problems that involve all of the above - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy - solve problems involving addition, subtraction, multiplication and division - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples - use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places - describe positions on the full coordinate grid (all four quadrants) - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
--	--	---	---

	<ul style="list-style-type: none">- solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate- Convert between miles and kilometres- Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places		
--	---	--	--