

	DM 40 – 60 mths	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number & Place Value	<ul style="list-style-type: none"> - Recognises some numerals of personal significance -Recognises numerals 1 to 5 -Select the correct numeral to represent 1 to 5, then 1 to 10 objects -Counts up to 3 or 4 objects by saying one number name for each item - Counts actions or objects that cannot be moved - Counts objects to 10, and beginning to count beyond 10 - Counts up to 6 objects from a larger group -Counts and irregular arrangement of up to 10 objects -Estimates how many objects they can see and check by counting them -Uses the language of 'more' and 'fewer' to compare two sets of objects -Says the number that is one more than a given number -Finds one more or less from a group of up to five, then ten objects. 	<ul style="list-style-type: none"> -Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number -Count, read and write numbers to 100 in numerals, count in different multiples including ones, twos, fives and tens -Given a number, identify one more and one less -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 -Read and write numbers from 1 to 20 in numerals and words 	<ul style="list-style-type: none"> -Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward -Recognise the place value of each digit in a two-digit number (tens, ones) -Identify, represent and estimate numbers using different representations, including the number line -Compare and order numbers from 0 up to 100; use <, > and = signs -Read and write numbers to at least 100 in numerals and in words -Use place value and number facts to solve problems. 	<ul style="list-style-type: none"> -Count from 0 in multiples of 4, 8, 50 and 100; finding 10 or 100 more or less than a given number -Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) -Compare and order numbers up to 1000 -Identify, represent and estimate numbers using different representations -Read and write numbers up to 1000 in numerals and in words -Solve number problems and practical problems involving these ideas. 	<ul style="list-style-type: none"> -Count in multiples of 6, 7, 9, 25 and 1000 -Find 1000 more or less than a given number -Count backwards through zero to include negative numbers -Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) -Order and compare numbers beyond 1000 -Identify, represent and estimate numbers using different representations -Round any number to the nearest 10, 100 or 1000 -Solve number and practical problems that involve all of the above and with increasingly large positive numbers -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. 	<ul style="list-style-type: none"> -Read, write, order and compare numbers to at least 1000 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 -Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero -Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 -Solve number problems and practical problems that involve all of the above -Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. 	<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 -Solve number problems and practical problems that involve all of the above.
Addition & Subtraction	<ul style="list-style-type: none"> -Finds the total number of items in two groups by counting all of them -In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting - Records, using marks that they can interpret and explain - Begins to identify own mathematical problems based on own interests and fascinations 	<ul style="list-style-type: none"> -Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs -Represent and use number bonds and related subtraction facts within 20 -Add and subtract one digit and two digit numbers to 20 including zero -Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ 	<ul style="list-style-type: none"> -Solve problems with addition and subtraction: <ul style="list-style-type: none"> -using concrete objects and pictorial representations, including those involving numbers, quantities and measures -applying their increasing knowledge of mental and written methods -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: <ul style="list-style-type: none"> - a two digit number and ones - a two digit number and tens - two two-digit numbers - adding three one-digit numbers -Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot -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"> -Add and subtract numbers mentally, including: <ul style="list-style-type: none"> -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 -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. 	<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. 	<ul style="list-style-type: none"> -Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) -Add and subtract numbers mentally with increasingly large numbers -Use rounding to check answers to calculations and determine, in the context of the problem, levels of accuracy -Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. 	<ul style="list-style-type: none"> -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 whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context -Divide numbers up to 4 digits by a two digit whole number using the formal written method of short division where appropriate, interpreting remainders according to the context -Perform mental calculations, including with mixed operations and large numbers -Identify common factors, common multiples and prime numbers -Use their knowledge of the order of operations to carry out calculations involving the four operations -Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why -Solve problems involving addition,

Multiplication & Division

Fractions (including Decimals)

<p>-Solve simple 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>	<p>-Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers -Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs -Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot -Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p>	<p>-Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables -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 integer scaling problems and correspondence problems in which n objects are connected to m objects</p>	<p>-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 -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 -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</p>	<p>-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 -Establish whether a number up to 100 is prime and recall prime numbers up to 19 -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 -Multiply and divide numbers mentally drawing upon known facts -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 -Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 -Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3) -Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes -Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign -Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</p>	<p>subtraction, multiplication and division -Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy</p>
<p>-Recognise, find and name a half as one of two equal parts of an object, shape or quantity -Recognise, find and name a quarter as one of four equal parts of an object shape or quantity</p>	<p>-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 e.g. $1/2$ of 6 = 3 and recognise the equivalence of $2/4$ and $1/2$</p>	<p>-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 -Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators -Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators -Recognise and show, using diagrams, equivalent fractions with small denominators Add and subtract fractions with the same denominator within one whole (e.g. $5/7 + 1/7 = 6/7$) -Compare and order unit fractions, and fractions with the same denominators -Solve problems which involve all of the above</p>	<p>-Recognise and show, using diagrams, families of common equivalent fractions -Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten -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 -Add and subtract fractions with the same denominator</p>	<p>-Compare and order fractions whose denominators are all multiples of the same number -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 > 1 as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$) -Add and subtract fractions with the same denominator and denominators that are multiples of the same number -Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</p>	<p>-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 simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1/4 \times 1/2 = 1/8$) -Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$).</p>

					<ul style="list-style-type: none"> -Recognise and write decimal equivalents of any number of tenths or hundredths -Recognise and write decimal equivalents to $1/4$; $1/2$; $3/4$ -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 -Round decimals with one decimal place to the nearest whole number -Compare numbers with the same number of decimal places up to two decimal places -Solve simple measure and money problems involving fractions and decimals to two decimal places 	<ul style="list-style-type: none"> -Read and write decimal numbers as fractions (e.g. $0.71 = 71/100$) -Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents -Round decimals with two decimal places to the nearest whole number and to one decimal place -Read, write, order and compare numbers with up to three decimal places -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 hundred, and as a decimal -Solve problems which require knowing 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 	<ul style="list-style-type: none"> - Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $3/8$) - 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 -Multiply one-digit numbers with up to two decimal places by whole numbers -Use written division methods in cases where the answer has up to two decimal places -Solve problems which require answers to be rounded to specified degrees of accuracy -Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Ratio and proportion							<ul style="list-style-type: none"> -Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts -Solve problems involving the calculation of percentages(e.g.of measures) such as 15% of 360 and the use of percentages for comparison -Solve problems involving similar shapes where the scale factor is known or can be found -Solve problems involving unequal sharing and grouping using known knowledge of fractions and multiples
Algebra							<ul style="list-style-type: none"> -Use simple formulae -Generate and describe linear number sequences -Express missing number problems algebraically -Find pairs of numbers that satisfy an equation with two unknowns -Enumerate all possibilities of combinations of two variables
Measurement	<ul style="list-style-type: none"> -Orders two or three items by length or height. -Order two items by weight or capacity -Uses everyday language related to time -Beginning to use everyday language related to money -Orders and sequences familiar events -Measures short periods of time in simple ways 	<ul style="list-style-type: none"> -Compare, describe and solve practical problems for: <ul style="list-style-type: none"> -lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) - mass/weight (e.g. heavy/light, heavier than, lighter than) -capacity and volume (full/empty, more than, less than, half, half full, quarter) -time (quicker, slower, earlier, later) - Measure and begin to record the following: <ul style="list-style-type: none"> -lengths and heights -mass/weight -capacity and volume -time (hours, minutes, seconds) -Recognise and know the value of different denominations of coins and notes -Sequence events in chronological order using language (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 	<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 ($^{\circ}\text{C}$); 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 $=$ -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 -Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change -Compare and sequence intervals of time -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 	<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 2-D shapes -Add and subtract amounts of money to give change, using both £ and p in practical contexts -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, hours and; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight -Know the number of seconds in a minute and the number of days in each month, year and leap year -Compare durations of events, for example to calculate the time taken by particular events or tasks 	<ul style="list-style-type: none"> -Convert between different units of measure (e.g. kilometre to metre; hour to minute) -Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m -Find the area of rectilinear shapes by counting squares -Estimate, compare and calculate different measures, including money in pounds and pence -Read, write and convert time between analogue and digital 12 and 24-hour clocks -Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days 	<ul style="list-style-type: none"> -Convert between different units of measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) -Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints -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 (cm^2) and square metres (m^2) and estimate the area of irregular shapes -Estimate volume(e.g., using 1cm^3 blocks) to build cuboids (including cubes) and capacity (e.g. using water) -Solve problems involving converting between units of time -Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation, including scaling 	<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 -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 -Convert between miles and kilometres -Recognise that shapes with the same areas can have different perimeters and vice versa -Recognise when it is possible to use formula for area and volume of shapes -Calculate the area of parallelograms and triangles -Calculate, estimate and compare volumes of cubes and cuboids using standard units, including cubic centimetres cm^3 and cubic metres (m^3) and extending to other units such as mm^3 and km^3

Geometry: properties of shapes and position, and Direction	<ul style="list-style-type: none"> -Begin to use mathematical names for 'solid' 3-D shapes and 'flat' 2-D shapes, and mathematical terms to describe shapes -Selects a particular named shape -Uses familiar objects and common shapes to create and recreate patterns and build models 	<ul style="list-style-type: none"> -Recognise and name common 2-D and 3-D shapes, including: <ul style="list-style-type: none"> -2-D shapes (e.g. rectangles (including squares), circles and triangles) -3-D shapes (e.g. cuboids (including cubes), pyramids and spheres) 	<ul style="list-style-type: none"> -Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line -Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces -Identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid -Compare and sort common 2-D and 3-D shapes and everyday objects. 	<ul style="list-style-type: none"> -Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them -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 turn; identify whether angles are greater than or less than a right angle -Identify horizontal, vertical lines and pairs of perpendicular and parallel lines.. 	<ul style="list-style-type: none"> -Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes -Identify acute and obtuse angles and compare and order angles up to two right angles by size -Identify lines of symmetry in 2-D shapes presented in different orientations -Complete a simple symmetric figure with respect to a specific line of symmetry 	<ul style="list-style-type: none"> -Identify 3-D shapes, including cubes and other cuboids, from 2-D representations -Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles -Draw given angles, and measure them in degrees (°) -Identify: <ul style="list-style-type: none"> -angles at a point and one whole turn (total 360^o) -angles at a point on a straight line and ½ a turn (total 180^o) -other multiples of 90^o -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 angle 	<ul style="list-style-type: none"> -Draw 2-D shapes using given dimensions and angles -Recognise, describe and build simple 3-D shapes, including making nets -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 -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"> -Can describe their relative position such as 'behind' or 'next to' .. 	<ul style="list-style-type: none"> -Describe position, direction and movement, including whole, half, quarter and three-quarter turns 	<ul style="list-style-type: none"> -Order and arrange combinations of mathematical objects in patterns and sequences -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). 		<ul style="list-style-type: none"> -Describe positions on a 2-D grid as coordinates in the first quadrant -Describe movements between positions as translations of a given unit to the left/right and up/down -Plot specified points and draw sides to complete a given polygon. 	<ul style="list-style-type: none"> -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. 	<ul style="list-style-type: none"> -Describe positions on the full coordinate grid (all four quadrants) -Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
Statistics			<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 category and sorting the categories by quantity -Ask and answer questions about totalling and compare categorical data. 	<ul style="list-style-type: none"> -Interpret and present data using bar charts, pictograms and tables -Solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables. 	<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. 	<ul style="list-style-type: none"> -Solve comparison, sum and difference problems using information presented in a line graph -Complete, read and interpret information in tables, including timetables. 	<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