Planning for Progression

MATHS

Number and Place Value	EYFS 30 – 50 months 40 – 60 months Early Learning Goals Ex	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
COUNTING	To use some number name and number language spontaneously. To use some number names accurately in play. To recite numbers on order to 10. To recognise that numbers identify how many objects are in a set. To realise not only objects but anything can be counted, including steps, claps or jumps. To count an irregular arrangement of up to 10 objects. To recognise some numerals of personal significance. To recognise numbers 1 – 5. To count up to 3 or 4 objects by saying one number name for each item. To count actions or objects which will not be moved. To count objects to 10 and beginning to count	**To count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number** To count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens **To give a number, identify one more and one less**	**To count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward**	**To count from 0 in multiples of 4, 8, 50 and 100;** **To find 10 or 100 more or less than a given number**	**To count backwards through zero to include negative numbers** To count in multiples of 6, 7, 9, 25 and 1000 To find 1000 more or less than a given number	**To interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero** To count forwards or backwards in steps of powers of 10 for any given number up to 1000 000	**To use negative numbers in context, and calculate intervals across zero**

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	beyond 10. To count out up to 6 objects from a group. To count reliably with numbers from 1 to 20.						
COMPARING NUMBERS	To compare two groups of objects, saying when they have the same number. To use the language of more and fewer to compare 2 sets of objects. To order numbers to 20.	To use the language of: equal to, more than, less than (fewer), most, least	**To compare and order numbers from 0 up to 100; use <, > and = signs**	To compare and order numbers up to 1000	To order and compare numbers beyond 1000	To read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	To read, write, order and compare numbers up to 10 000000 and determine the value of each digit (appears also in Reading and Writing Numbers)
IDENTIFYING, REPRESENTING AND ESTIMATING NUMBERS	To begin to represent numbers using fingers and marks on page. To sometimes match numeral to quantity correctly. To show curiosity about numbers by offering comments or asking questions. To show an interest in numbers in the environment. To show an interest in representing numbers. To select to correct numeral to represent 1 to 5 and then 1 to 10 objects. To estimate how many objects I can see and check by counting them. To estimate a number of objects and check quantities by counting up to 20.	To identify and represent numbers using objects and pictorial representations including the number line	To identify, represent and estimate numbers using different representations, including the number line	To identify, represent and estimate numbers using different representations	To identify, represent and estimate numbers using different representations		

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READING AND WRITING NUMBERS		**To count, read and write numbers from 1 to 20 in numerals and words.**	To read and write numbers to at least 100 in numerals and in words	To read and write numbers up to 1000 in numerals and in words *To tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks*	To 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.	To read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	To read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
UNDERSTANDING PLACE VALUE			**To recognise the place value of each digit in a two-digit number** (tens, ones)	To recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	**To recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)** *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 units, tenths and hundredths*	To read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents*	To read, write, order and compare numbers up to 10 000 000 and determine the value of each digit *identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places*
ROUNDING					**To round any number to the nearest 10, 100 or 1 000** *To round decimals with one decimal place to the nearest*	To round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 *To round decimals*	To round any whole number to a required degree of accuracy *To solve problems which require answers to be*

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					whole number	*with two decimal places to the nearest whole number and to one decimal place*	*rounded to specified degrees of accuracy*
PROBLEM SOLVING	To show an interest in number problems.		**To use place value and number facts to solve problems**	To solve number problems and practical problems involving these ideas.	To solve number and practical problems that involve all of the above and with increasingly large positive numbers	To solve number problems and practical problems that involve all of the above	To solve number and practical problems that involve all of the above
Addition and Subtraction	**EYFS** 30 – 50 months 40 – 60 months Early Learning Goals Ex	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
NUMBER BONDS	To separate a group of 3 or 4 objects in different ways and begin to recognize that the total is still the same.	**To represent and use number bonds and related subtraction facts within 20**	**To recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100**				
MENTAL CALCULATION	To find the total number of items in 2 groups by counting them all. To say the number that is one more. To find one more or one less from a group of up to 5 objects, then 10 objects. To begin to use the vocabulary involved in addition and subtraction. To say which number is one more and one less than a given number.	**To add and subtract one-digit and two-digit numbers to 20, including zero** **To read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs**	**To add and subtract numbers using concrete objects, pictorial representations, and mentally, including:** * **a two-digit number and ones** * **a two-digit number and tens** * **two two-digit numbers**	**To add and subtract numbers mentally, including:** * **a three-digit number and ones** * **a three-digit number and tens** * **a three-digit number and hundreds**		To add and subtract numbers mentally with increasingly large numbers	To perform mental calculations, including with mixed operations and large numbers To use their knowledge of the order of operations to carry out calculations involving the four operations

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	To use quantities and objects to add and subtract two single digit numbers and count on or back to find the answer.		* **adding three one-digit numbers** To show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot				
WRITTEN METHODS	To record using marks I can explain.	To read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs		**To add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction**	To add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	To add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	
INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS			**To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.**	**To estimate the answer to a calculation and use inverse operations to check answers**	To estimate and use inverse operations to check answers to a calculation	**To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy**	To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
PROBLEM SOLVING	To begin to identify own problems based on own interest and fascinations. To solve problems including doubling, halving and sharing.	To solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations,	To solve problems with addition and subtraction: * using concrete objects and pictorial representations,	To solve problems, including missing number problems, using number facts, place value, and more complex addition and	To solve addition and subtraction two-step problems in contexts, deciding which operations/methods to use and why	To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

		and missing number problems such as 7 = □ - 9	including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods *solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change*	subtraction			To solve problems involving addition, subtraction, multiplication and division
Multiplication and Division	**EYFS** 30 – 50 months 40 – 60 months Early Learning Goals Ex	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
MULTIPLICATION AND DIVISION FACTS		To count in multiples of twos, fives and tens	To count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward **To recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers**	**To count from 0 in multiples of 4, 8, 50 and 100** **To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables**	To count in multiples of 6, 7, 9, 25 and 1 000 **To recall multiplication and division facts for multiplication tables up to 12 × 12**	To count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	

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MENTAL CALCULATION			To show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	To 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	**To 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** **To recognise and use factor pairs and commutativity in mental calculations**	To multiply and divide numbers mentally drawing upon known facts **To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000**	To perform mental calculations, including with mixed operations and large numbers *To associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3/_8$)*
WRITTEN CALCULATION			**To calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs**	To 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 (appears also in Mental Methods)	**To multiply two-digit and three-digit numbers by a one-digit number using formal written layout**	**To 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** **To 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**	To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication **To divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context 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
MULTIPLES, FACTORS, PRIMES, SQUARES, CUBED					To recognise and use factor pairs and commutativity in mental calculations (repeated)	**To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.** **To know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers** **To establish whether a number up to 100 is prime and recall prime numbers up to 19** **To recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})**	To identify common factors, common multiples and prime numbers *To use common factors to simplify fractions; use common multiples to express fractions in the same denomination* (copied from Fractions) *To calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3* (copied from Measures)

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ORDER OF OPERATIONS							**To use their knowledge of the order of operations to carry out calculations involving the four operations**
INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS				*To estimate the answer to a calculation and use inverse operations to check answers* (copied from Addition and Subtraction)	*To estimate and use inverse operations to check answers to a calculation* (copied from Addition and Subtraction)		To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
PROBLEM SOLVING	To solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups.	To 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	To solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	To 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	To 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 To solve problems involving addition, subtraction, multiplication and division and a combination of	To solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	To solve problems involving addition, subtraction, multiplication and division

					these, including understanding the meaning of the equals sign To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates		
Fractions	**EYFS** 30 – 50 months 40 – 60 months Early Learning Goals Ex	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
COUNTING IN FRACTIONAL STEPS			*Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)*	**To count up and down in tenths**	To count up and down in hundredths		
RECOGNISING FRACTIONS		**To recognise, find and name a half as one of two equal parts of an object, shape or quantity** **To recognise, find and name a quarter as one of four equal parts of an object, shape or quantity**	**To recognise, find, name and write fractions $^{1}/_{3}$, $^{1}/_{4}$, $^{2}/_{4}$ and $^{3}/_{4}$ of a length, shape, set of objects or quantity**	**To recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators** **To recognise that tenths arise from dividing an object into 10 equal parts**	**To recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten**	To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence)	

				and in dividing one – digit numbers or quantities by 10. To recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			
COMPARING FRACTIONS				**To compare and order unit fractions, and fractions with the same denominators**	**To compare numbers with the same number of decimal places up to two decimal places**	**To compare and order fractions whose denominators are all multiples of the same number** **To read, write, order and compare numbers with up to three decimal places**	**To compare and order fractions, including fractions >1** To identify the value of each digit in numbers given to three decimal places
ROUNDING INCLUDING DECIMALS					**To round decimals with one decimal place to the nearest whole number**	**To round decimals with two decimal places to the nearest whole number and to one decimal place**	To solve problems which require answers to be rounded to specified degrees of accuracy
EQUIVALENCE			**To write simple fractions e.g. $^1/_2$ of 6 = 3 and recognise the equivalence of $^2/_4$ and $^1/_2$.**	**To recognise and show, using diagrams, equivalent fractions with small denominators**	To recognise and show, using diagrams, families of common equivalent fractions To recognise and write decimal	**To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths**	**To use common factors to simplify fractions**; use common multiples to express fractions in the same denomination **To associate a**

					equivalents of any number of tenths or hundredths **To recognise and write decimal equivalents to** $^{1}/_{4}$; $^{1}/_{2}$; $^{3}/_{4}$	**To read and write decimal numbers as fractions** (e.g. 0.71 = $^{71}/_{100}$) To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents **To 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 as a decimal fraction**	**fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction** (e.g. $^{3}/_{8}$) **To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.**
ADDITION AND SUBTRACTION OF FRACTIONS				**To add and subtract fractions with the same denominator within one whole** (e.g. $^{5}/_{7} + {}^{1}/_{7} = {}^{6}/_{7}$)	To add and subtract fractions with the same denominator	**To add and subtract fractions with the same denominator and multiples of the same number** **To recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a**	**To add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions**

						mixed number (e.g. $^{2}/_{5} + {}^{4}/_{5} = {}^{6}/_{5} = 1{}^{1}/_{5}$)	
MULTIPLICATION AND DIVISION OF FRACTIONS						**To multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams**	**To multiply simple pairs of proper fractions, writing the answer in its simplest form** (e.g. $^{1}/_{4} \times {}^{1}/_{2} = {}^{1}/_{8}$) **To multiply one-digit numbers with up to two decimal places by whole numbers** **To divide proper fractions by whole numbers** (e.g. $^{1}/_{3} \div 2 = {}^{1}/_{6}$)
MULTIPLICATION AND DIVISION OF DECIMALS					**To 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**		To multiply one-digit numbers with up to two decimal places by whole numbers To multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places To identify the value of each digit to three decimal places and multiply and

							divide numbers by 10, 100 and 1000 where the answers are up to three decimal places To associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^{3}/_{8}$) **To use written division methods in cases where the answer has up to two decimal places**
PROBLEM SOLVING				To solve problems that involve all of the above	To 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 To solve simple measure and money problems involving fractions and decimals to two decimal places.	To solve problems involving numbers up to three decimal places To 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.	

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Ratio and Proportion	EYFS 30 – 50 months 40 – 60 months Early Learning Goals Ex	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
							To solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts To solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison To solve problems involving similar shapes where the scale factor is known or can be found To solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

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Measurement	EYFS 30 – 50 months 40 – 60 months Early Learning Goals Ex	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
COMPARING AND ESTIMATING	To order 2 or 3 objects by length or height. To order 2 items by weight or capacity. To use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and solve problems. To estimate, measure, weigh and compare and order objects and properties, position and time.	To compare, describe and solve practical problems for: * 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 [e.g. full/empty, more than, less than, half, half full, quarter] * time [e.g. quicker, slower, earlier, later] **To sequence events in chronological order using language** [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	To compare and order lengths, mass, volume/capacity and record the results using >, < and = To compare and sequence intervals of time	To compare durations of events, for example to calculate the time taken by particular events or tasks To estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)	To estimate, compare and calculate different measures, including money in pounds and pence (also included in Measuring)	To calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes (also included in measuring) To estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity (e.g. using water)	To calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3.

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MEASURING AND CALCULATING	To begin to use everyday language related to money.	**To measure and begin to record the following:** * **lengths and heights** * **mass/weight** * **capacity and volume** * **time (hours, minutes, seconds)** **To recognise and know the value of different denominations of coins and notes**	To choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels **To recognise and use symbols for pounds (£) and pence (p);** combine amounts to make a particular value To find different combinations of coins that equal the same amounts of money To solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	**To measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)** **To measure the perimeter of simple 2-D shapes** **To add and subtract amounts of money to give change, using both £ and p in practical contexts**	**To estimate, compare and calculate different measures, including money in pounds and pence** (appears also in Comparing) To measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres To find the area of rectilinear shapes by counting squares	To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. **To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres** **To calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes**	To calculate the area of parallelograms and triangles To 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 [e.g. mm^3 and km^3]. To recognise when it is possible to use formulae for area and volume of shapes

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TELLING THE TIME	To use everyday language related to time. To order and sequence familiar events. To measure short periods of time in simple ways.	**To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.** **To recognise and use language relating to dates, including days of the week, weeks, months and years**	**To 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.** To know the number of minutes in an hour and the number of hours in a day. (appears also in Converting)	**To tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks** **To estimate and read time with increasing accuracy to the nearest minute;** record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Comparing and Estimating)	To read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting) To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Converting)	To solve problems involving converting between units of time	
CONVERTING			To know the number of minutes in an hour and the number of hours in a day. (appears also in Telling the Time)	To know the number of seconds in a minute and the number of days in each month, year and leap year	**To convert between different units of measure** (e.g. kilometre to metre; hour to minute) To read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)	To convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) To solve problems involving converting between units of time	**To 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**

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					To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)	**To understand and use equivalences between metric units and common imperial units such as inches, pounds and pints**	To solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate **To convert between miles and kilometres**
Geometry - Properties of Shape	**EYFS** 30 – 50 months 40 – 60 months Early Learning Goals Ex	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
IDENTIFYING SHAPES AND THEIR PROPERTIES	To show an awareness of similarities of shapes in the environment. To show interest in shapes in the environment. To begin to talk about the shape of everyday objects e.g. round and tall. To begin to use mathematical language for 2D and 3D shapes and mathematical terms to describe them. To select a particular named shape. To explore characteristics of everyday objects and shapes and use mathematical language to describe them.	**To recognise and name common 2-D and 3-D shapes,** including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].	**To identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line** **To identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces** To identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on		To identify lines of symmetry in 2-D shapes presented in different orientations	**To identify 3-D shapes, including cubes and other cuboids, from 2-D representations**	To recognise, describe and build simple 3-D shapes, including making nets (appears also in Drawing and Constructing) **To illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius**

			a cylinder and a triangle on a pyramid]				
DRAWING AND CONSTRUCTING	To show an interest in shape by sustained construction activity or by talking about shapes or arrangements. To use shapes appropriately for tasks.			To draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	**To complete a simple symmetric figure with respect to a specific line of symmetry**	**To draw given angles, and measure them in degrees (°)**	To draw 2-D shapes using given dimensions and angles To recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties)
COMPARING AND CLASSIFYING			To compare and sort common 2-D and 3-D shapes and everyday objects		**To compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes**	**To use the properties of rectangles to deduce related facts and find missing lengths and angles** **To distinguish between regular and irregular polygons based on reasoning about equal sides and angles**	To compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
ANGLES				To recognise angles as a property of shape or a description of a turn To identify right	To identify acute and obtuse angles and compare and order angles up to two right angles by size	**To know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles**	**To recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing**

				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.** **To identify horizontal and vertical lines and pairs of perpendicular and parallel lines.**		**To identify:** * **angles at a point and one whole turn (total 360°)** * **angles at a point on a straight line and ½ a turn (total 180°)** * other multiples of 90°	**angles**
Geometry - Position and Direction	**EYFS** 30 – 50 months 40 – 60 months Early Learning Goals Ex	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
POSITION, DIRECTION AND MOVEMENT	To use positional language. To describe their relative position such as 'behind' or 'next to'	To describe position, direction and movement, including half, quarter and three-quarter turns.	To 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 (c/w and anti c/w)		**To describe positions on a 2-D grid as coordinates in the first quadrant** **To describe movements between positions as translations of a given unit to the left/right and up/down**	**To 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**	**To describe positions on the full coordinate grid (all four quadrants)** **To draw and translate simple shapes on the coordinate plane, and reflect them in the axes.**

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PATTERN	To show an interest in shape and space by making arrangements with objects. To use familiar objects and common shapes to create and recreate patterns and build models. To recognise, create and describe patterns.		To order and arrange combinations of mathematical objects in patterns and sequences				
Statistics	**EYFS** 30 – 50 months 40 – 60 months Early Learning Goals Ex	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			To interpret and construct simple pictograms, tally charts, block diagrams and simple tables To ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity To ask and answer questions about totalling and comparing categorical data	**To interpret and present data using bar charts, pictograms and tables**	**To interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs**	**To complete, read and interpret information in tables, including timetables**	**To interpret and construct pie charts and line graphs** and use these to solve problems

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SOLVING PROBLEMS				To solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	To solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	To solve comparison, sum and difference problems using information presented in a line graph	**To calculate and interpret the mean as an average**
Algebra	**EYFS** 30 – 50 months 40 – 60 months Early Learning Goals Ex	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
EQUATIONS		*To solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and* ***missing number problems*** *such as* $7 = \square - 9$ (copied from Addition and Subtraction) *represent and use number bonds and related subtraction facts within 20* (copied from Addition and Subtraction)	*To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and* ***missing number*** *problems.* (copied from Addition and Subtraction) *recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100* (copied from Addition and Subtraction)	To solve problems, *including* ***missing number*** *problems, using number facts, place value, and more complex addition and subtraction.* (copied from Addition and Subtraction) *To solve problems, including* ***missing number*** *problems, involving multiplication and division, including integer scaling* (copied from Multiplication and Division)		*To use the properties of rectangles to deduce related facts and find* ***missing lengths and angles*** (copied from Geometry: Properties of Shapes)	**To express missing number problems algebraically** To find pairs of numbers that satisfy number sentences involving two unknowns To enumerate all possibilities of combinations of two variables

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FORMULAE					*Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit.* *(Copied from NSG measurement)*		**To use simple formulae** To *recognise when it is possible to use* ***formulae*** *for area and volume of shapes* (copied from Measurement)
SEQUENCES		*To sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening* (copied from Measurement)	*To compare and sequence intervals of time* (copied from Measurement) *To order and arrange combinations of mathematical objects in patterns* (copied from Geometry: position and direction)				**To generate and describe linear number sequences**