+Maths (Mathematics Mastery)

Long Term Plan 2023 - 2024

Subject	Autumn		Spring		Summer	
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Foundation 1	Saying numbers in the correct order Counting Finger numbers Sequencing events Size Pattern		Number rhymes Counting Subitising Finger numbers Matching numerals and amounts Locations Routes Length Weight Shape		Measure Counting Subitising Finger numbers Matching numerals and amounts Locations and routes Capacity 3-D shape Mark making symbols Numerals	
DM statements Mathematics	Develop 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 than'. • 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'. • 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 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…'					
Foundation 2	Early Mathematical Experiences Pattern and early number	Numbers within 6 Addition and subtraction within 6 Measures – Length Shape and sorting	Numbers within 10 Calendar and time Addition and subtraction within 10	Grouping and sharing Numbers within 15 Double and Half Shape and pattern	Securing addition and subtraction facts Number patterns with 20 Number patterns beyond 20	Money Measures Exploration of patterns within number

| DM statements | Count objects, actions and sounds
Continue, copy and create repeating patterns. | ELG - Subitise (recognise quantities without counting)

Link the number symbol (numeral) with its cardinal number value

Understand the 'one more than/one less than' relationship between consecutive numbers

Automatically recall number bonds for numbers 0–5

Compare length

Select, rotate and manipulate shapes in order to develop spatial reasoning skills

Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. | ELG – Subitise up to 5

Explore the composition of numbers to 10

Link the number symbol (numeral) with its cardinal number value

ELG – Have a deep understanding of number to 10, including the composition of each number

ELG - Automatically recall number bonds for numbers 0–5 and some to 10 | Count beyond ten.

Understand the 'one more than/one less than' relationship between consecutive numbers

ELG - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts

ELG - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally

Select, rotate and manipulate shapes in order to develop spatial reasoning skills | ELG - Automatically recall number bonds for numbers 0–5 and some to 10, including double facts

ELG – Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally | Compare length, weight and capacity

Compare numbers

ELG - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity

ELG - Have a deep understanding of number to 10, including the composition of each number.

ELG - Verbally count beyond 20, recognising the pattern of the counting system. |

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				Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.		
Year 1	Numbers within 10 Addition and subtraction within 10 Shape and pattern	Numbers within 20 Addition and subtraction within 20	Time Exploring calculation strategies within 20 Numbers to 50	Addition and subtraction within 20 Fractions Measures: Length and mass	Numbers 50 to 100 and beyond Addition and subtraction Money	Multiplication and division Measures: Capacity and volume
NC links	count to ten, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 10 in numerals and words 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 count in multiples of two double and halve numbers within 10	count to twenty, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers from 1 to 20 in numerals and words 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 in multiples of two and five double and halve numbers within 20	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Recognise and use language relating to dates, including days of the week, weeks, months and years. Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later] and measure and begin to record time (hours, minutes, seconds.	represent and use number bonds and related subtraction facts within 20 add and subtract one-digit and two-digit numbers to 20, including zero add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; adding three one-digit numbers (Y2) read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number; count on and back in twos fives and tens. count, read and write numbers from 1 to 20 in numerals and words; read and write numbers to at least 100 in numerals and in words (Y2) 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	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 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

estimate numbers within 10 represent and use number bonds and related subtraction facts [within 10] add and subtract one-digit numbers [to 10], including zero read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems Recognise and name common 2-D and 3-D shapes, including 2-D shapes [for example, rectangles (including squares), circles and triangles]; 3-D shapes [for example, cuboids (including cubes), pyramids and spheres Describe position, direction and movement, including whole and half turns	represent and use number bonds and related subtraction facts within 20 add and subtract one-digit and two-digit numbers to 20, including zero read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ▯ − 9	Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]. Describe position, direction and movement, including whole, half, quarter and three-quarter turns, with reference to the clock face. represent and use number bonds and related subtraction facts within 20 add and subtract one-digit and two-digit numbers to 20, including zero read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs solve one-step problems that involve addition and subtraction, using	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ▯ − 9 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. Solve problems involving halves and quarters Describe position, direction and movement, including whole, half, quarter and three-quarter turns, with reference to the clock face. compare, describe and solve practical	language of: equal to, more than, less than (fewer), most, least recognise the place value of each digit in a two-digit number (tens, ones) (Y2) identify, represent and estimate* numbers to 100 using different representations (Y2) represent and use number bonds and related subtraction facts within 20 add and subtract one-digit and two-digit numbers to 100, including zero 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; adding three one-digit numbers (Y2) read, write and interpret mathematical	compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]; mass/weight [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] measure and begin to record the following: lengths and heights; mass/weight; capacity and volume

			concrete objects and pictorial representations, and missing number problems such as 7 = ▯ − 9

count to fifty, forwards and backwards, beginning with 0 or 1, or from any given number; count in multiples of two, five and ten.

count, read and write numbers from 1 to 20 in numerals and words 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

recognise the place value of each digit in a two-digit number (tens, ones) | problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]; mass/weight [for example, heavy/light, heavier than, lighter than]

measure and begin to record the following: lengths and heights; mass/weight | statements involving addition (+), subtraction (−) and equals (=) signs

solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ▯ − 9

recognise and know the value of different denominations of coins and notes solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = o − 9 | |

Year 2	Numbers within 100 Addition and subtraction of 2-digit numbers Addition and subtraction word problems	Measures: length Graphs Multiplication and division 2, 5 and 10	Time Fractions Addition and subtraction of 2-digit numbers	Money Faces, shapes and patterns: lines and turns	Numbers within 1000 Measures: capacity and volume Mass	Exploring calculation strategies Applying multiplicative thinking
NC links	Use place value and number facts to solve problems Recognise the place value of each digit in a 2-digit number (tens, ones) Identify, represent and estimate numbers to 100 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 Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward Recall and use addition and subtraction facts to 20 fluently Show that addition of two numbers can be done in any	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers and scales Compare and order length and record the results using >, < and = Apply knowledge of numbers to 100 to read scales to the nearest appropriate standard unit in the context of length (m/cm) 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	Tell 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 Compare and sequence intervals of time Recognise, find, name and write fractions 1/2, 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 Recognise the equivalence of 2/4 and 1/2	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 Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	Use place value and number facts to solve problems Identify, represent and estimate numbers to 1000 using different representations (Y3) Compare and order numbers up to 1000 (Y3) Read and write numbers up to 1000 in numerals and in words (Y3) Count from 0 in multiples of 10 and 100; find 10 or 100 more or less than a given number (Y3) Apply knowledge of numbers up to 1000 to read scales Choose and use appropriate standard units to **estimate and measure** capacity (litres/ml) and	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Add and subtract numbers mentally, including: a two-digit number and ones; a two-digit number and tens; adding three one-digit numbers Add and subtract numbers with up to two digits, using written methods Recall and use multiplication and division facts for the 3 and 4 multiplication tables (Y3)

order (commutative) and subtraction of one number from another cannot 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; adding three one-digit numbers Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems Solve problems with addition and subtraction: use concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods Estimate the answer to a calculation and use inverse operations to check answers	Ask and answer questions about totalling and comparing categorical data Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including	Recall and use addition and subtraction facts to 20 fluently Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot 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; adding three one-digit numbers Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods	Compare and sort common 2-D and 3-D shapes and everyday objects Order and arrange combinations of mathematical objects in patterns and sequences Use mathematical vocabulary to describe position, direction and movement in a straight line and distinguishing rotation as a turn and in terms of right angles	temperature (°C) to the nearest appropriate unit, using scales, thermometers and measuring vessels **Compare and order** volume and capacity and record the results using >, < and = Apply knowledge of numbers to 1000 to **read scales** to the nearest appropriate standard unit in the context of capacity (litres/ml) and temperature (°C) Choose and use appropriate standard units to **estimate and measure** mass (kg/g) to the nearest appropriate unit, using scales and measuring vessels. **Compare and order** mass and record the results using >, < and = Apply knowledge of numbers to 1000 to **read scales** to the nearest appropriate standard unit in the context of mass (kg/g)	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental method, and multiplication and division facts, including problems in contexts Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot

			recognising odd and even numbers	Estimate the answer to a calculation and use inverse operations to check answers (Y3)		
Year 3	Number sense and exploring calculation strategies Place value Graphs	Addition and subtraction Length and perimeter	Multiplication and division Deriving multiplication and division facts	Time Fractions	Angles and shape Measures	Applying multiplicative thinking Exploring calculation strategies and place value
NC links	Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction Recognise the place value of each digit (tens+, ones), compare and order numbers up to 100 Find 10 more or less than a given number Read and write numbers up to 100 in numerals and in words Solve number problems and practical problems involving these ideas Identify, represent and estimate numbers using different representations, including the number line	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 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	Recall and use multiplication and division facts for the 3 and 4 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 Count from zero in multiples of 4 Recall and use multiplication and division facts for the 3 and 4 multiplication tables	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 Know the number of seconds in a minute and the number of days in each month, year and leap year	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 and vertical lines and pairs of perpendicular and parallel lines Draw 2-D shapes and make 3-D shapes using modelling materials Recognise 3-D shapes in different orientations and describe them	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 8 multiplication tables Count from zero in multiples of 8 Add and subtract numbers mentally

	Add and subtract amounts of money to give change, using both £ and p in practical contexts Identify, represent and estimate numbers using different representations Find 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 Read and write numbers up to 1000 in numerals and in words Solve number problems and practical problems involving these ideas Count from 0 in multiples of 50 and 100 Interpret and present data using bar charts, pictograms and tables Solve one-step and two-step questions [for example, 'How many	Measure, compare, add and subtract: lengths (m/cm/mm) Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction Measure the perimeter of simple 2-D shapes Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed … and simple equivalents of mixed units (for example, 5m = 500cm)	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	Compare durations of events [for example to calculate the time taken by particular events or tasks Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators 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 and show, using diagrams, equivalent fractions with small denominators Add and subtract fractions with the same denominator within one	Measure the perimeter of simple 2-D shapes Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1 kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm)	Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) (Y4) find 1000 more or less than a given number; (Y4) Order and compare numbers beyond 1000 (Y4) Round any number to the nearest 10, 100 or 1000 (Y4)

	more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables			whole [*for example,* 5/7 + 1/7 = 6/7] Compare and order unit fractions, and fractions with the same denominators Solve problems that involve all of the above		
Year 4	Reasoning with large numbers **Addition and subtraction**	Multiplication and division **Interpreting and presenting data**	Calculating with multiplication and division **Fractions** Time	Decimals **Area and perimeter**	Solving measure and money problems **Shape and symmetry**	Position and direction **Reasoning with patterns and sequences** 3D Shape
NC links	Find 1000 more or less than a given number Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) Order and compare numbers beyond 1000 Solve number and practical problems that involve all of the above and with increasingly large positive numbers	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	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	Recognise and write decimal equivalents of any number of tenths or hundredths Recognise and write decimal equivalents to 1/4,1/2 and 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	Convert between different units of measure [for example, kilometre to metre; hour to minute] Solve simple measure and money problems involving fractions and decimals to two decimal places Estimate, compare and calculate different measures, including money in pounds and pence	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 **Read Roman numerals to 100 (I to**

Identify, represent and estimate numbers using different representations Round any number to the nearest 10, 100 or 1000 Count in multiples of 6, 7, 9, 25 and 1000 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 Count backwards through zero to include negative numbers 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	Recognise and use factor pairs and commutativity in mental calculations 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 Multiply two-digit and three-digit numbers by a one-digit number using formal written layout 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.	Recognise and show, using diagrams, families of common equivalent fractions Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5] (Y5) 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 Convert between different units of measure [for example, kilometre to metre; hour to minute]	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 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 Find the area of rectilinear shapes by counting squares Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres (Y5) Calculate and compare the area of rectangles (including squares), and including using standard	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	C) and know that over time, the numeral system changed to include the concept of zero and place value Count backwards through zero to include negative numbers Recognise and use square numbers, and the notation for squared (2) (Y5) Draw 2-D shapes and make 3-D shapes using modelling materials (Y3) Recognise 3-D shapes in different orientations and describe them Measure the perimeter of simple 2-D shapes (Y3)

	check answers to a calculation. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.		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.	units, square centimetres (cm2) and square metres (m2) (Y5)		
Year 5	Reasoning with large whole numbers Problem solving with integer addition and subtraction Line graphs and timetables	Multiplication and division Perimeter and area	Fractions and decimals Angles	Fractions and percentages Transformations	Converting units of measure Calculating with whole numbers and decimals	2D and 3D Shape Volume Problem solving
NC links	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 Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers Recognise and use square numbers and the notation for squared (2) Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	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 Read and write decimal numbers as fractions	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 Solve problems involving multiplication and division, including	Solve problems involving converting between units of time Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use approximate	Compare and classify geometric shapes, including quadrilaterals and triangles, based on the properties (Y4) Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

	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. 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) Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Establish whether a number up to 100 is prime and recall prime numbers up to 19 Multiply and divide whole numbers by 10, 100 and 1000 Multiply and divide numbers mentally drawing upon known facts Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes 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	[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 Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5] Round decimals with two decimal places to the nearest whole number and to one decimal place Solve problems involving number up to three decimal places Know angles are measured in degrees: estimate and compare	scaling by simple fractions and problems involving simple rates 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 Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and decimal and fraction equivalents of percentages that are multiples of 10 and 25. Use all four operations to solve problems involving measure (for example length, mass, volume, money) using decimal notation, including scaling Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical	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 Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Solve problems involving number up to three decimal places Solve problems involving measure (for example length, mass, volume, money) using decimal notation, including scaling Solve addition and subtraction multi-step problems in contexts, deciding which operations and	Draw given angles, and measure them in degrees (o) Distinguish between regular and irregular polygons based on reasoning about equal sides and angles Identify 3-D shapes, including cubes and other cuboids, from 2-D representations Recognise, describe and build simple 3-D shapes, including making nets (Y6) Illustrate and name parts of circles, including radius, diameter and circumference and know that diameter is twice the radius. (Y6) Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity

	Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret information in tables, including timetables Solve problems involving converting between units of time	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign 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 non-rectilinear shapes	acute, obtuse and reflex angles Identify: angles at a point and one whole turn (total 360o); angles at a point on a straight line and 12 a turn (total 180o); other multiples of 90o Draw given angles, and measure them in degrees (o)	statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5] 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 Describe positions on the full coordinate grid (all four quadrants) (Y6)	methods to use and why Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy Solve problems involving addition, subtraction, multiplication and a combination of these, including understanding the meaning of the equals sign 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	[for example, using water] Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) Convert between different units of metric measure (for example, litre and millilitre) Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
Year 6	Integers and Decimals Multiplication and division	Calculation problems Fractions Missing angles and length	Coordinates and shape Fractions Decimals and measures	Percentages and statistics Proportion problems	Consolidation and application of previous learnt topics	Consolidation and application of previous learnt topics
NC links	Read, write, order and compare numbers up to	Find pairs of numbers that satisfy an equation with two unknowns.	Describe positions on a full coordinates grid	Recall and use equivalences between simple fractions, decimals		

10 000 000 and determine the value of each digit.

Round any whole number to a required degree of accuracy

Solve problems involving addition and subtraction

Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why

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

Identify common factors, common multiples and prime numbers

Perform mental calculations, including mixed operations and large numbers

Multiply multi-digit numbers up to 4 digits by a two-digit whole | Enumerate possibilities of combinations of two variables

Use their knowledge of the order of operations to carry out calculations involving the four operations

Generate and describe linear number sequences

Express missing number problems algebraically

Solve problems involving addition, subtraction, multiplication and division

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination

Compare and order fractions, including fractions > 1 | Draw 2-D shapes using given dimensions and angles

Draw and translate simple shapes on the coordinate plane, and reflect them in the axes

Recognise, describe and build simple 3-D shapes, including making nets

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

Multiply simple pairs of proper fractions, writing the answer in its simplest form

Divide proper fractions by whole numbers

Recall and use equivalences between simple fractions and decimals, including in different contexts | and percentages, including in different contexts

Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison

Interpret and construct pie charts and line graphs and use these to solve problems

Calculate and interpret the mean as an average

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 similar shapes where the |

	number using the formal written method of long multiplication Multiply one-digit numbers with up to two decimal places by whole numbers Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division; interpret remainders as whole number remainders, fractions, or by rounding Use written division methods in cases where the answer has up to two decimal places	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 38] Recall and use equivalences between simple fractions and decimals, including in different contexts Generate and describe linear number sequences (with fractions) Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	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 formulae for area	scale factor is known or can be found Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples		

	Solve problems which require answers to be rounded to specified degrees of accuracy Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	Express missing number problems algebraically. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.	and volume of shapes Use simple formulae Calculate the area of parallelograms and triangles Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3] Generate and describe linear number sequences (with decimals)			