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Mathematics – A Progression of Knowledge & Skills				
Year group	**term**	**topic**	**skills**	**knowledge**
YN	aut	Me & My Family	**Number:** To count up to 3 objects To recite numbers to 5 To one to one count (to 5) To know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). To show 'finger numbers' up to 5. To link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. To experiment with their own symbols and marks as well as numerals. *Spring Term Specific*: To solve real world mathematical problems with numbers up to 5.	
	spr	Me & My World	**Numerical Patterns (Shape, Space & Measure):** To compare quantities using language: 'more than', 'fewer than'. To 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'. To understand position through words alone – for example, "The bag is under the table," – with no pointing. To describe a familiar route using the language of position, eg "I can walk next to the door" To discuss routes and locations, using words like 'in front of' and 'behind'.	
			Vocabulary **Number** - numbers 1-5, group, more, less, fewer,	

			Numerical Patterns - circle, rectangle, triangle	
	sum	Me Growing Up	**Number:** To count up to 5 objects To recite numbers to 10 To one to one count (to 5) **Numerical Patterns (Shape, Space & Measure):** To make comparisons between objects relating to size, length, weight and capacity. To select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. To combine shapes to make new ones – an arch, a bigger triangle etc. To talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. To extend and create ABAB patterns – stick, leaf, stick, leaf. To notice and correct an error in a repeating pattern. To begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	**Number:** To recognise numerals to 5
			Vocabulary **Number** - numbers 1-10 **Numerical Patterns** - first, then, next,	
YR	aut	Me & My Family	**Number:** To count forwards and backwards to 10 from different starting points (1-10) To count actions or objects that cannot be moved to 5 To count objects in a group/irregular arrangement of up to 10 To use 1:1 correspondence To represent numbers using fingers, marks on paper or pictures to 5	**Number:** To subitise up to 5 To know how to count to 5 (forwards) To count objects in a group to 5 To write numerals to 5

			To sort objects, identifying what is the same and what is different To recognise numerals (1-5) To order numbers to 5 To write numbers to 5 (numeral) To find /say which is one more and one less than a given number up to 5 To explore number bonds to 5 (five frames, part-part-whole) **Numerical Patterns (Shape, Space & Measure):** To show an interest in patterns and arranging objects To order times within a day To use non-standard measurements of time (how many sleeps, how many playtimes)	
			Vocabulary **Number** - numbers 1-10, group, more, less, the same, different, five frame, part-part-whole **Numerical Patterns** - yesterday, today, tomorrow, before, later, next, pattern	
	spr	Me & My World	**Number:** To count forwards and backwards to 20 (0-20) To count actions or objects that cannot be moved to 10 To estimate how many objects they can see and check by counting To recognise numerals (0-10) To order numbers to 10 To write numbers to 10 (numeral) To explore number bonds to 10 and within 10 (ten frames, part-part-whole) To relate addition to combining two groups to make a whole (to 10) To relate subtraction to taking away (ten frames, part-part-whole) **Numerical Patterns (Shape, Space & Measure):** To use positional language (next to, behind, near, on, into) To compare 3D shapes (what is the same, what is different)	**Number:** To know how to count to 10 (forwards & backwards) To count objects in a group to 10 To write numerals to 10 To automatically recall (without reference to rhymes counting or other aids) number bonds up to 5 (including subtraction facts). **Numerical Patterns** To name common 2D shapes (circles, triangles, squares & rectangles)

			To share what I notice about a 3D shape (does it roll? do they stack together?) To name some common 2D shapes To imitate patterns of shapes To create patterns of shapes	
			Vocabulary **Number -** numbers 1-20, group, more, less, the same, different, ten frame, part-part-whole, addition, subtraction **Numerical Patterns -** next to, near, behind, near, on, into, circle, triangle, rectangle, square, pattern	
	sum	Me Growing Up	**Number:** To explore doubles to 20 To identify half of a group of objects To recognise numerals (0-20) To order numbers to 20 To write numbers to 20 (numeral) To recognise the number of objects in a small group without counting (subitise) To use quantities and objects to add two single digit numbers and to count on to find the answer To add two set of objects which are the same (e.g. apples and apples) then different (e.g. cars and trucks) To share objects equally To use quantities and objects to subtract two single digit numbers (count on or back) to find the answer **Numerical Patterns (Shape, Space & Measure):** To compare height and length using non-standard descriptions of measure (tall, short, wide, narrow) To measure height and length using non-standard units of measure (how many blocks tall) To compare weight using non-standard descriptions of measure (heavy, light) To measure height and length using non-standard units of measure (balancing scales) To measure capacity using non-standard descriptions of measure (full, nearly full, nearly empty, empty)	**Number:** To know how to count to 20 (forwards & backwards) To count objects in a group to 20 To write numerals to 20 To know number bonds to 5, 6 & 10 Have a deep understanding of numbers to 10

			To compare capacity using non-standard units of measure (thinnest tube, fattest tube)	
			To begin to use everyday language related to money	
			To recognise repetitive patterns	
			To compare up to 10 objects by size & differences	

Vocabulary
Number - numbers 1-20, group, more, less, the same, different, ten frame, part-part-whole, addition, subtraction, half, double

Numerical Patterns - tall, short, wide, narrow, heavy, light, thin, fat, full, nearly, empty, coins, pennies, pounds

Year group	term	topic	skills	knowledge
Y1	aut	Once Upon a Time	To identify, and represent numbers within 10 using objects and pictorial representations To read and write numbers to 10 in numerals and words To compare and order numbers within 10 (introduce <,> and =) - To reason about the location of numbers on a number line (eg. I know that 8 is in between 7 &9) To represent and use number bonds and related subtraction facts within 10 (introducing +, - & =) To solve one-step word (story) problems that involve + and -, using concrete objects, pictorial representations & abstract using +, -, = to 10 To double numbers within 10 To identify odd and even numbers To recognise and name 2D shapes and their properties To recognise and name 3D shapes To identify, and represent numbers within 20 using objects and pictorial representations Identify or place numbers up to 20 on marked and unmarked number lines.	To know how to read and write numbers to 10 in numerals and words To know number bonds to and within 10 To recognise the relationship between number bonds (eg. 3+2=5, 2+3=5, 5=2+3) & corresponding subtraction facts (eg. 5-3=2) To know what <, > and = signs represent To name 2D shapes and their properties To name 3D shapes

			To read and write numbers within 20 in numerals and words To compare and order numbers within 20 **Counting:** ● Counting and sorting objects ● Count forwards and backwards from any number within 10 ● Count one more/one less ● Counting ordinal numbers (1st,2nd,3rd) ● Count in 2's up to 24, linking with even numbers and supporting doubles	

Vocabulary
numerals, number bonds, part, whole, greater than, less than, equal to, sides, corners, edges, more, less, sort, first, second, third, fourth, fifth, double, odd, even, add, subtract, rectangle, square, circle, triangle, cuboid, cube, cylinders, spheres, pyramids

spr	Animal Kingdom	To represent and use number bonds and related subtraction facts within 20 Add 1-digit and 2-digit numbers within 20, including zero To subtract 1-digit and 2-digit numbers within 20, including zero (incl. Not crossing and crossing 10) To solve one-step word (story) problems that involve + and -, using concrete objects and pictorial representations & abstract (using +, -, =) to 20 To identify, and represent numbers within 50 using objects and pictorial representations To compare and order numbers within 50 To compare • **length and height** To measure • **length and height** ————- **Counting:** ● Count to and across 100, forward and backwards, from any number ● Focus on counting in multiples of 5 up to 60, linking with knowledge of counting in 10s ● Count in multiples of 10 in order up to 120	To know how to read and write numbers to 20 in numerals and words To know that the length is ' how long something is' To know that the height is' how tall something is'

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			Vocabulary number bonds, digit, numeral, quantity, add, plus, altogether, in total, number stories, represent, how many more, subtract, difference, how many left, take away, count back, jump back, smaller than, larger than, length, height, higher, shorter, taller, how long, how high, compare, ruler	
	sum	We Love London	To double numbers within 20 To solve problems reinforcing the concepts of equal groups, sharing (incl halving) and grouping To recognise, find and name a half of an object, shape or quantity. To recognise, find and name a quarter of an object, shape or quantity. To describe position and movement (incl. turns) To compose 2D & 3D shapes from smaller shapes, including manipulating shapes to place them in particular orientations. To recognise and create repeating patterns with objects and shapes To interpret and construct simple pictograms To identify, and represent numbers within 100 using objects and pictorial representations To compare and order numbers within 100 To sequence events in chronological order using language To compare and measure time To tell the time to the hour To tell the time to half past the hour ———— **Counting:** ● Count to and across 100, forward and backwards, from any number ● Count in multiples of 10, 2 and 5 in order with growing fluency ● Count in multiples of 10, 2 and 5 in order fluently	To know number bonds to and within 10 To know odd and even numbers to 20 To know doubles of numbers up to 5 To know the difference between a 'whole', 'half' and a 'quarter' To know the meaning of 'left', 'right', 'forward' , 'backward' To know the language of time and sequencing

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			Vocabulary
			double, twice, equal, unequal, half, group, share, shape, whole, half, quarter, turn, position, left, right, forward, backward, pictogram, order, sequence, o'clock, time, half past, hours, minutes, seconds, before, after, faster, slower, shorter, longer, earlier, later, yesterday, today, tomorrow, day, week, month, year, Monday- Sunday, calendar, date, minute hand, hour hand,

Year group	term	topic	skills	knowledge
Y2	aut	Fire! Fire!	To identify, represent and estimate numbers from 0-100 using different representations To compare and order numbers from 0 up to 100 (<,>,=) - To reason about the location of any two-digit number on a number line including identifying the previous and next multiple of 10 (including un-marked lines) To represent and use number bonds and related subtraction facts within 100 (including calculations bridging a multiple of 10) To show the understanding that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot To add and subtract a 2-digit number and ones numbers using concrete objects & pictorial representations To add and subtract a 2-digit number and tens numbers (multiples of 10) using concrete objects & pictorial representations To add and subtract two 2-digit numbers using concrete objects & pictorial representations (selecting appropriate methods) To add three 1-digit numbers using concrete objects & pictorial representations To solve story problems with addition and subtraction (including with the use of addends) To find different combinations of coins that equal the same amount of money	To recognise the relationship between number bonds (eg. 3+2=5, 2+3=5, 5=2+3) & corresponding subtraction facts (eg. 5-3=2) To recognise the place value of each digit in a 2-digit number (tens,ones) To know how to read and write numbers to at least 100 in numerals and in words To recall and use addition and subtraction facts to 20 fluently To know the value of coins To recognise and use symbols for £ and p To recall multiples of 10 up to 12x10 in any order, including missing numbers and related division facts with growing fluency

| | | | To calculate change using subtraction (part-part-whole)

To solve simple story problems in a practical context involving addition and subtraction of money of the same units (incl. comprehension of word problems and representing them using a bar model or part-part-whole)

Counting:
● To count in steps of 2 and 5 from 0 up to 12x fluently
● To count in multiples of 3 to 12x3 in order from 0 | |

Vocabulary
estimate, check, count, order, greater than, less than, equal to, part, whole, tens, ones, addition, add, plus, altogether, in total, number stories, represent, how many more, subtract, difference, how many left, take away, how many more, how many fewer, count back, jump back, less, money, coins, 1p, 2p, 5p, 10p, 20p, 50p, £1, £2

spr	The Secret Garden	Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotative division). To generate mathematical statements for multiplication and division (within the multiplication tables) and write them using multiplication, division and equal signs. To solve problems involving multiplication and division To interpret tally charts (understanding when and how to use tally charts) In box - 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 recall and use multiplication and division facts for the 2, 5 and 10x tables To recognise equal groups To know 2D shapes and their properties (using precise language) To know 3D shapes including the number of edges, vertices and faces Identify 2D shapes on the surface of 3D shapes To know what 'numerator' and 'denominator' are in a fraction

To construct tally charts/simple tables his/her accurate and clear labelling of rows and columns-tally, frequency

To interpret block diagrams (understanding when and how to use block diagrams)
In box -
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 construct block diagrams; bv accurate labelling, drawings and spacing/ vertically and horizontally

To explore and understand symmetry

To compare and sort common 2D shapes and everyday objects (including both standard and non-standard polygons)
- To reason about the shapes & size of a 2D shape, relative to other 2D shapes

To compare and sort common 3D shapes and everyday objects

To recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, sets of objects or quantity

To calculate simple fractions of quantities

To explore and recognise the equivalence of 2/4 and 1/2

Counting:
- To count in multiples of 2 ,3 (new) and 5 from 0, and
- To count in 10s from any number, forward (in 5s and 10s from 100)
- To count in 3s to 36- but use a 100 square to show patterns of multiples of 3 up to 100

Vocabulary
multiplication, division, equals, tally chart, data, rows, columns, frequency, block diagram, quantity, symmetry, symmetrical, line of symmetry, 2D, 3D, square, rectangle, circle, semicircle, oval, triangle, square, heptagon, hexagon, pentagon, octagon, quadrilateral, cube, cuboid, sphere, pyramid, edges, faces, curved faces, sides, vertices, corners, multiples, fractions, quarter, third, half, whole

sum	Globetrotters	To compare and order within the same standard units of measure – length/height To measure length/height in any direction in m and cm using rulers including drawing lines and shapes To solve problems using all 4 operations To order and arrange combinations of mathematical objects in patterns and sequences To compare and sequence intervals of time/(1h vs 10 minutes) To tell the time to the hour and half past the hour In box - draw the hands on a clock face to show these times To tell and write time to five minutes his/her including quarter to/past to the hour and draw the hands on a clock face to show these times To compare and order within the same standard units of measure – mass To measure mass in kg and g using marked scales To measure capacity in l and ml using measuring vessels To measure temperature in °C using thermometers	To use mathematical vocabulary to describe position, direction and movement To know the number of minutes in an hour To know the number of hours in a day To know that length is measured in mm, cm and m To know that mass is measured in g and kg To know capacity is measured in ml and ml To know that temperature is measured in °C

Vocabulary
Length, height, weight, mass, capacity, temperature, pattern, sequence, quarter to /quarter past..past/to, ten minutes past/to, grams, kilograms, centimeters, millimetres, degrees centigrade, litres, mililitres

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Year group	term	topic	skills	knowledge
Y3	aut	Invaders and settlers	To identify, represent and estimate numbers to 1000 using different representations To recognise the place value of each digit in a 3-digit number To find 10 or 100 more or less than a given number To compare and order numbers up to 1,000 - Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. To partition numbers (part-part-whole; bar-model; canonical and non-canonical) - Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. To add numbers with up to 3-digits using formal method of column addition (exchanging and regrouping) Use inverse to check answers. To subtract numbers with up to 3-digits using formal method of column subtraction(exchanging and regrouping) Use inverse to check answers To solve word problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures (incl. money) To recognise the effect of multiplying 1 digit numbers by 10 and 100	Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10 (apply this to identify and work out how many 10s there are in other three-digit multiples of 10.) Secure fluency in addition and subtraction facts that bridge 10, through continued practice. recall of addition and subtraction facts within and across 10 To know the effect of adding/ subtracting 10 or 100 from a given number To read and write numbers to 1,000 in numerals and words To use the knowledge of rounding to estimate the answer to a calculation To recall number bonds to 10 and 100 Calculate complements to 100 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10) Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction. To recall multiples of 3 up to 12x3 in any order, including missing numbers and related division facts with growing fluency Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.

			To explore the corresponding multiplication and division facts. **Counting:** ● To count in 50s and 100s ● To count in multiples of 3 to 12x3 in order from 0 fluently ● To count in multiples of 4 to 12x4 in order from 0 with growing fluency ● To introduce (relating to x4) and begin to count in multiples of 8 from 0 to 12x8	
			Vocabulary estimate, more, less, partition,standard, non-standard, bar model,commutative,addend, sum,total, minuend, subtrahend, difference, reduction, column addition/subtraction, inverse, multiples, scaling, factor, product, dividend, divisor,quotient, grouping, sharing	
	spr	Superhumans	To multiply 2-digit numbers by 1-digit number using the formal written methods (arrays, base ten, place value counters) To divide 2-digit numbers by 1-digit numbers (repeated subtraction, base ten, place value counters) To solve word problems involving multiplication and division - Apply known multiplication and division facts to solve contextual problems with different structures, including quotative and partitive division. Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts To add and subtract amounts of money Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. To compare and order simple fractions - Reason about the location of any fraction within 1 in the linear number system	To recall multiples of 3 up to 12x3 in any order, including missing numbers and related division facts fluently To recall multiples of 4 up to 12x4 in any order, including missing numbers and related division facts with growing fluency To know what a numerator and denominator are To know what a unit fraction is

			To recognise and show equivalent fractions with small denominators To add and subtract fractions with the same denominator within one whole Find unit fractions of quantities using known division facts (multiplication tables fluency) **Counting:** ● To count up and down in tenths (recognise that tenths arise from dividing a 'whole' into 10 equal parts; dividing 1-digit numbers by 10) ● To count in multiples of 4 to 12x4 in order from 0 with fluently. ● To count in multiples of 8 to 12x8 in order from 0 with growing fluency.	
			Vocabulary change, coins,how much more/less, what's the difference, fraction,part, whole, equal,the fraction bar, numerator, denominator, unit and non-unit fractions, names of fractions: half, quarter, third, fifth,etc, equivalence, multiple, roman numerals	
	sum	Rainforest Explorers	To describe polygons using the knowledge of polygons and their properties - Draw polygons by joining marked points, and identify parallel and perpendicular sides To identify right angles. - Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. To understand and use standard units of measure to compare and estimate **- length and distance** To measure with increasing accuracy To measure and calculate the perimeter of simple polygons To recognise and describe 3D shapes To identify and compare numerals and roman numerals	To know 2D shapes and their properties To name 3D shapes To recognise that two right angles make a half-turn & three make a three quarter turn. To identify whether angles are greater than or less than a right angle. To identify and draw: • Horizontal and vertical • Pairs of parallel and perpendicular lines To know that length is measured in mm, cm and m To know Roman numerals 1-12 To know that mass is measured in g and kg

				To recall multiples of 4 up to 12x4 in any order (including missing numbers and related division facts fluently)
			To compare durations of events	
			To estimate, read and write the time to the nearest 5 min from an analogue clock (12 hour)(including 1-12 Roman numerals)	To recall multiples of 8 up to 12x8 in any order (including missing numbers and related division facts with growing fluency)
			To estimate, read and write the time to the nearest 5 min from a digital clock (24 hour)	
			To calculate new time using a number line	
			To interpret scaled bar charts, pictograms and tables	
			To construct scaled bar charts, pictograms and tables	
			To understand and use standard units of measure to compare and estimate - **mass, volume/capacity**	

Vocabulary
square, rectangle, circle, triangle, heptagon, pentagon, hexagon, octagon, quadrilateral, polygon,cube, cuboid, pyramid, sphere, sides, corners, edges, vertices, angle, turn, perimeter, years, months, days, hours, leap year, roman numerals, 24 clock, digital clock, bar chart, pictogram, mass, volume, capacity, multiple

Year group	term	topic	skills	knowledge
Y4	aut	Robots	To identify, represent and estimate numbers beyond 1000 using different representations. - Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning. To recognise & understand the place value of each digit in a 4-digit number in order to mentally add & subtract ones, tens, hundreds and thousands. - Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. To compare and order numbers beyond 1,000.	Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. To know the effect of adding/ subtracting 10 ,100 ,1000 from a given number To read Roman numerals to 100 To recall number bonds to 10 and 100 To know standard units of measure and their relationship To know factor pairs

To round any number to the nearest 10, 100 or 1,000. To partition numbers (part-part-whole; bar-model; canonical and non-canonical) To use the column method to add and subtract numbers with up to 4-digits (exchanging and regrouping) Use inverse to check answers To solve addition and subtraction 2-step word problems in contexts Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. To convert between different units of measurements (mm-cm-m-km) using the understanding of x and : numbers by, 10,100 and 1000 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. To measure and calculate **the perimeter** of a rectilinear figure. - Find the perimeter of regular and irregular polygons. To recognise and use factor pairs commutativity in mental calculations Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. **Counting:** ● Count in 25 and 1,000 ● counting in multiples of 100, 200, 250, and 500 from 0, or from any multiple of these numbers, both forwards and backwards ● Count in 6s in order up to 12x6, using multiples of 3 to support ● Count in 7s in order up to 12x7	To recall multiples of 3, 4 and 8 up to 12x in any order, including missing numbers and related division facts fluently To recall multiples of 6 in any order, including missing numbers and related division facts with growing fluency
Vocabulary estimate,estimate, more, less, partition,standard, non-standard, bar model,commutative,addend, sum,total, minuend, subtrahend, difference, reduction, column addition/subtraction, inverse, multiples, scaling, factor, product, dividend, divisor,quotient, grouping, sharing, numerals, value, part, whole, compare,	

			smaller than, larger than, equal, ascending, descending, add, total, sum, subtract, take away, round, midpoint, placeholder, convert, standard units, metric units, millimeters, centimeters, meters, kilometers, measure, perimeter, rectilinear, factors, commutative, arrays, multiples	

	spr	All the World's A Stage	Understand and apply the distributive property of multiplication.
			
			To multiply 2-digit and 3 digit numbers by a 1-digit number
			  - arrays, base ten, place value counters
			
			To divide 2-digit and 3 digit numbers by a 1-digit number sharing
			  - repeated subtraction, base 10, place value counters
			
			Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, for example: and interpret remainders appropriately according to the context.
			
			To solve word problems involving multiplication and addition, division and subtraction.
			
			To find **the area** of rectilinear shapes by counting squares.
			
			Reason about the location of mixed numbers in the linear number system.
			
			To recognise families of common equivalent fractions.
			
			Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers,
			
			Convert mixed numbers to improper fractions and vice versa.
			
			To calculate fractions of quantities (What's 1/3 of 9?; bar modelling, Cuisenaire rods)
			
			To add and subtract fractions with the same denominator
			
			Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers
			
			To recognise & understand the place value of each digit in a number with 2 decimal places(tenths and hundredths)
				Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)
				
				To recall multiples of 6 in any order, including missing numbers and related division facts fluently
				
				To recall multiples of 7 in any order, including missing numbers and related division facts with growing fluency
				
				To recall multiples of 7 in any order, including missing numbers and related division facts fluently

			To recognise and write decimal equivalents (1/4, ½, ¾ and any tenths and hundredths) **Counting:** ● Count backwards through zero to include negative numbers ● Count up and down in hundredths ● Count in 9s in order up to 12x9 ● Count in 11s in order up to 12x11	
			Vocabulary factors, commutative, arrays, , inverse, multiples, scaling, factor, product, dividend, divisor,quotient, grouping, sharing, divide, sharing, grouping, area,standard units, metric units, millimetres, centimetres, metres, kilometres, square, common, equivalent, fraction, denominator, numerator, quantity, decimals, negative	
sum	Extreme Earth		To compare and order numbers with the same number of decimal places (up to 2dp- including: representing, reading and writing decimals) To round decimals with one decimal place to the nearest whole number To develop understanding of pounds and pence(using decimal notation) To read, write and convert between analogue and digital 12 & 24 hour clocks To solve time word problems using a number line (including start, end, duration time and converting To interpret discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. To present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs To compare and classify geometric shapes (triangles and quadrilaterals) - Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry. To identify acute and obtuse angles (estimate and order angles)	To know different types of triangles To know different types of quadrilaterals To know time and duration facts To know different types of angles To recall multiples of 9 in any order, including missing numbers and related division facts with growing fluency (using 10x and adjusting by 1 group to find 9x as a strategy) To recall multiples of 11 in any order, including missing numbers and related division facts fluently To recall multiples of 9 in any order, including missing numbers and related division facts fluently To recall multiples of 12 in any order, including missing numbers and related division facts with growing fluency (using 10x and adjusting by adding 2 more groups)

To describe positions on a 2D grid as coordinates in the first quadrant

To plot specified points on a grid

Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.

Counting:
- Count in 12s in order up to 12x12

Vocabulary
decimals, decimal places, decimal point, whole number, estimate, numerals, value, part, whole, compare, smaller than, larger than, equal, ascending, descending, round, pounds, pence, analogue, digital, am, pm, duration, discrete data, continuous data, bar charts, line graphs, triangles, right angle triangle, scalene, isosceles,equilateral quadrilaterals, square, oblong, rectangle, rhombus, trapezoid, parallelogram, symmetry, symmetric, line of symmetry, acute, obtuse, right,venn diagram, carroll diagram, criteria, position, right, left, coordinates, quadrant, axis, axes, translate, move

Year group	term	topic	skills	knowledge
Y5	aut	Meet the Greeks	To recognise and understand the value of each digit in numbers up to 1,000,000 To read and write numbers to at least 1,000,000 To round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 and 100000. To compare and order numbers up to 1,000,000. To interpret negative numbers in context To partition numbers within 1,000,0000 (part-part-whole; bar-model; canonical and non-canonical) To add and subtract whole numbers with more than 4 digits To solve addition and subtraction multi-step word problems in contexts To interpret and complete information in tables (including timetables) To represent data To identify multiples and factors: ● Common factors/ prime factors ● Understand and be able to name prime numbers (up to 20)	To recall number bonds to 10 and 100 To know prime numbers up to 20 To know square and cube numbers up to 150 To know different types of angles To know different types of triangles To know different types of quadrilaterals To recall all times tables up to 12 x12 in any order, including missing numbers and related division facts fluently Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.

			To recognise and use square numbers and cube numbers
			
			To multiply and divide numbers mentally
			   - Related facts & application
			
			To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
			   - Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.
			
			To multiply numbers up to 4 digits by a 1-digit or 2-digit number
			   - formal written method.
			
			To divide numbers up to 4 digits by a 1-digit number
			   - Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.
			
			To solve problems involving multiplication and division and interpret remainders appropriately for the context.
			
			To solve word problems involving addition, subtraction, multiplication and division and a combination of these
			
			Counting:
			● Count forwards and backwards in steps of powers of 10 from any given number	

			Vocabulary whole number, estimate, numerals, value, part, whole, compare, smaller than, larger than, equal, ascending, descending, add, total, sum, subtract, take away, round, midpoint, placeholder, convert, standard units, common, prime, factors, square numbers, cube numbers, commutative, arrays, multiples, decimals, tenths, hundreths, division, sharing, grouping, regular, irregular, right angle triangle, scalene, isosceles,equilateral, right, obtuse, acute, reflex, angles, degrees, protractor, venn diagram, carroll diagram, criteria	
	spr	Space Race	To convert between different units of metric measures - including using common decimals and fractions. To understand and use approximate equivalences between metric units and common imperial units	To read Roman numerals to 1,000 (M) To know standard units of measure and their relationship To know equivalent fractions To identify and describe 3D shapes and their properties

To measure and calculate the perimeter of composite rectilinear shapes To calculate and compare the area of rectangles to estimate and calculate the area of irregular shapes. To identify, describe and represent the position of a shape following a reflection or translation To identify, name and write equivalents of a given fraction - Find equivalent fractions and understand that they have the same value and the same position in the linear number system. - Recall decimal fraction equivalents for 1/2 ,1/4,1/5 and 1/10 , and for multiples of these proper fractions. To compare and order fractions whose denominators are multiples of the same number Find non-unit fractions of quantities To add and subtract fractions To recognise mixed numbers and improper fractions and convert from one form to the other To multiply proper fractions and mixed numbers by whole numbers To solve word fraction problems To estimate and calculate volume and capacity To add and subtract numbers mentally with increasingly large numbers **Counting:** ● Count in hundredths, ¼	To know multiples of any number up to 12 To know pair factors of numbers To know prime, square and cube numbers To recall all times tables up to 12 x12 in any order, including missing numbers and related division facts fluently

Vocabulary
standard units, imperial units, metric units, millimeters, centimeters, meters, kilometers, square, regular, irregular, position,symmetry, mirror line, reflection, translation, move, right, left, fractions, equivalent, compare, smaller than, larger than, denominator, numerator, lowest common multiple (LCM) convert, mixed numbers, improper fractions, proper fractions, volume, capacity, liters, milliliters, cube

	sum	Eco-warriors	To read, write, order and compare numbers with up to 3 decimal places
			   - Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning.
			   - Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.
			
			To round decimals with 2 dp
			
			To solve problems which require knowing percentage, simple fractions and decimal equivalents
			
			To distinguish between regular and irregular polygons (types of triangles)
			
			To estimate and compare angles
			
			To measure angles in degrees (°)
			
			To draw angles of a given size
			
			To use the properties of rectangles to deduce related facts and find missing lengths and angles
			
			Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.
			
			To solve problems involving converting between units
			of time (both 12 and 24-hours clocks).
			
			———-
			Counting:
			   ● Count in 0.25s, 0.10s
				Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1.
				 Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01.
				 Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.
				
				To combine known additive and multiplicative facts with unitising in tenths and hundredths
				
				To read and write decimal numbers as fractions
				
				Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth)
				
				To write percentages as a fraction with denominator hundred, and as a decimal
				
				To know percentage and decimal equivalence
				
				To recall all times tables up to 12 x12 in any order, including missing numbers and related division facts fluently
				
				To recall Roman numerals to 1000
				
				To know time and duration facts
				
				To know multiples of any number up to 12
				
				To know pair factors of numbers
				
				To know prime, square and cube numbers

Vocabulary decimals, decimal places, decimal point, whole number, estimate, numerals, value, part, whole, compare, smaller than, larger than, equal, ascending, descending, round, percentage, percent, measure, perimeter, rectilinear, %, analogue and digital clocks, time zones, am, pm, midday, midnight, duration, discrete data, continuous data, bar charts, timetables, line graphs

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Year group	term	topic	skills	knowledge
Y6	aut	Blitz & Blackouts	Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning To read, write, order and compare numbers up to 10,000,000 and numbers with 3 decimal places. - Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts To round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 and 10,000,000. To solve addition and subtraction word multi-step problems in contexts (bar model) To multiply multi-digit numbers up to 4 digits by a 2 digit whole number To divide numbers up to 4 digits by a 2 digit whole number: ● Short division ● Long division To solve word problems involving addition, subtraction, multiplication and division To compare and order fractions - Express fractions in a common denomination and use this to compare fractions that are similar in value. Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy. To simplify fractions. - Recognise when fractions can be simplified, and use common factors to simplify fractions.	To identify common factors, common multiples and prime numbers To recall all times tables up to 12 x12 in any order, including missing numbers and related division facts fluently To recall Roman numerals to 1000 To know different units of measure and their relationships To know prime, square and cube numbers To use knowledge of the order of operations to carry out calculations involving the four operations To perform calculations efficiently using known facts Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. To describe, compare and classify geometric shapes based on the properties (triangles, quadrilaterals and other regular and irregular polygons up to 12-sides)

			To add and subtract fractions with different denominators and mixed numbers To multiply simple pairs of proper fractions To divide proper fractions by whole numbers To calculate decimal fractions equivalents for a simple fraction To draw 2D shapes given dimensions and angles - Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems. To multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places. **Counting:** ● forwards or backwards in steps of powers of 10 from any given number	

Vocabulary
whole number, estimate, numerals, value, part, whole, compare, smaller than, larger than, equal, ascending, descending, add, total, sum, subtract, take away, round, difference, factors, highest common factor (HCF), prime, products, multiple, commutative, division, divide, sharing, grouping, midpoint, placeholder, convert, standard units, measure, perimeter, rectilinear,common, decimals, tenths, hundreths, division, sharing, grouping, regular, irregular, right angle triangle, scalene, isosceles,equilateral, right, obtuse, acute, reflex, angles, degrees, protractor, venn diagram, carroll diagram, criteria

	spr	Rivers of Time	To use negative numbers in context, and calculate intervals across zero To multiply a number with up to 2 decimal places by whole numbers. To use written division methods in cases where the answer has up to 2 decimal places. To calculate percentages of an amount To convert between fractions, decimals and percentages in order to solve problems To calculate the perimeter and area of compound shapes To estimate, calculate, and compare the volume of cubes and cuboids To find unknown angles in any triangles, quadrilaterals and regular polygons	To recall and use equivalences between simple fractions, decimals and percentages To know angle facts for triangles, quadrilaterals and regular polygons To recall 2D and 3D shapes and their properties To name parts of a circle To recall all times tables up to 12 x12 in any order, including missing numbers and related division facts fluently To recall Roman numerals to 1000 To know different units of measure and their relationships

			To describe positions on the full coordinate grid (all four quadrants)
			
			To draw, translate and reflect simple shapes on the coordinate plane.
			
			To solve ratio and proportion problems
			   - Solve problems involving ratio relationships.
			
			To express missing number problems algebraically
			   - Solve problems with 2 unknowns
			
			To generate and describe linear number sequences
			
			To find pairs of numbers that satisfy an equation with two unknowns
			
			To enumerate possibilities of combinations of two variables.
				(including imperial units and time)
				
				To know prime, square and cube numbers

Vocabulary
negative numbers, estimate, numerals,factors, decimals, decimal place, decimal point, products, multiple, commutative, division, divide, sharing, grouping, midpoint, placeholder, convert, standard units, measure, perimeter, compound, area, square units, volume, cubic units, right, obtuse, acute, reflex, angles, degrees, protractor, triangles, quadrilaterals, polygons, position, right, left, coordinates, quadrant, axis, axes, x and y axes, translate, reflect, rotate, move,ratio, proportion, simplify, highest common factor, algebra, linear number sequences, equation, combinations, possibilities, variables,

	sum	Who am I?	To interpret pie charts and line graphs and use these to solve problems To construct pie charts To calculate and interpret the mean as an average. To represent data **Counting and recall** ● Count in 0.25s, 0.10s	To know angle facts as a measure of turn To recall and use equivalences between simple fractions, decimals and percentages To know angle facts for triangles, quadrilaterals and regular polygons To recall 2D and 3D shapes and their properties Name parts of a circle To recall times tables facts for up to 12 x12 To recall Roman numerals to 1000 To know different units of measure and their relationships (including imperial units and time)

				To recall all times tables up to 12 x12 in any order, including missing numbers and related division facts fluently
				To know prime, square and cube numbers
			Vocabulary pie charts, degrees, line graphs, mean, average, angles, turn, equivalence, circle, radius, circumference, measure (metric and imperial units)	