Mathematics – A Progression of Knowledge & Skills				
Year group	**term**	**topic**	**skills**	**knowledge**
YN	aut	Me & My Family	**Nursery goals:** • Able to subitise to 3 (using numicon or dice) • Have a deep understanding of numbers to 5 (to include counting accurately, recognising the numerals and talking about more and less) • Able to verbally count up to 10 (and possibly beyond to 20) confidently by rote • Able to use words like long, short, heavy and light and understand their meaning. • Able to name and recognise some 2D shapes (square, triangle, rectangle and circle)	
			Autumn 1 <u>Comparison</u> To compare two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. *You've got two, I've got two. Same!* To sort objects and items by attribute <u>Counting</u> Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5. To count verbally in order to 5 and beyond <u>Shape</u> To choose shape for a purpose and consider their properties <u>Measures</u> To explore length in meaningful contexts: identifying longest and shortest <u>Pattern</u> To identify and discuss patterns in the environment **Autumn 2** <u>Cardinality</u> To subitise up to two without counting <u>Spatial Awareness</u> To respond to and use positional language To respond to and use directional language (to describe familiar routes) <u>Shape</u>	

			To understand and use both informal language and common shape names <u>Measures</u> To explore weight in meaningful contexts: identifying heaviest and lightest To explore capacity in meaningful contexts: identifying full and empty <u>Pattern</u> To create spatial patterns showing organisation and regularity	
			Vocabulary Compare, count, quantity, sort, square, rectangle, circle, triangle, long, short, repeating pattern, subitise, position, in front, behind, next to, up, down, left, right, heavy, light, full, empty, half full	
	spr	Me & My World	**Spring 1** <u>Counting</u> To use some number names and number language within play (may show fascination with large numbers) To begin to recognise numerals 0 - 5 <u>Cardinality</u> To count up to five items, recognising that the last number said represents the total counted so far (cardinal principle) To represent a quantity up to 5 using objects To link numerals and amounts to 3 <u>Shape</u> To show awareness of shape similarities and differences between objects <u>Pattern</u> To join in with simple patterns in sounds, objects, games and stories dance and movement **Spring 2** <u>Comparison</u> To understand the concept or more and fewer <u>Cardinality</u> To subitise up to three without counting <u>Counting</u> To begin to recognise numerals 6 - 10	

			<u>Composition</u> To begin to learn that numbers are made up (composed) of smaller numbers (through play and exploration) To begin to use understanding of number to solve practical problems in play and meaningful activities <u>Pattern</u> To predict patterns in sounds, objects, stories and movements <u>Spatial Awareness</u> To predict, move and rotate objects to fit a space or create a shape	
			Vocabulary Numeral, number, quantity, similar, different, same, subitise, part, whole, shape, rectangle, circle, square, triangle, more, fewer	
	sum	Me Growing Up	**Summer 1** <u>Cardinality</u> To link numerals with amounts up to 5 and maybe beyond <u>Counting</u> To count accurately to 10 and beyond To order numbers to 5 <u>Composition</u> To begin to recognise that each counting number is one more than the one before <u>Shape</u> To partition and combine shapes to make new shapes with 2D and 3D shapes <u>Pattern</u> To identify, explain and continue a 2 or 3 step repeating pattern <u>Shape</u> To use informal language to compare 2D and 3D shapes **Summer 2** <u>Cardinality</u> To explore using a range of their own marks and signs to which they ascribe mathematical meanings	

			Counting To order numbers 0-10 To recognise missing numbers between 0 and 5 Composition To separate a group of three or four objects in different ways, beginning to recognise that the total is still the same Shape To create arches and enclosures when building, using trial and improvement to select blocks Measures To recall a sequence of events in everyday life or stories (using time language) Pattern To explore and add to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC)	
			Vocabulary Numeral, quantity, order, count, one more than, shapes, circle, rectangle, square, triangle, repeating pattern, time, before, after, next, first, pattern	
YR	aut	Me & My Family	**Reception Goals:** • Able to subitise to 5 and beyond • Can understand in depth numbers to 10, including number bonds • Able to confidently add and subtract two single digit numbers using preferred method • Uses comparative language when comparing length, weight, capacity and position • Able to investigate and talk about 2D and 3D shapes and their properties	
			Autumn 1 Counting To recite numbers from 0 to 10 and beyond and back from 0 to 10 To confidently order numbers from 0 to 10 (ordinality) To recognise missing numbers between 0 and 10 Cardinality To count out up to 10 objects from a group Spatial Awareness To use spatial language to follow and give directions	

			Shape To use informal language and analogies, (e.g. *heart-shaped and hand-shaped leaves*), as well as mathematical terms to describe shapes Measures To become familiar with measuring tools in everyday experiences and play **Autumn 2** Comparison To use number names and symbols when comparing numbers, showing interest in large numbers To identify when a quantity is greater than, less than or the same Cardinality To subitise numbers to 4 and maybe 5 Composition To show awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects (1-5) Spatial Awareness To use relative terms and describe what they see from different viewpoints Pattern To spot patterns in the environment, beginning to identify the pattern "rule"	
			Vocabulary Numbers 1-10, group, more, less, the same, different, five frame, part-part-whole, left, right, up, down, forwards, backwards, shape, rectangle, triangle, square, circle, measure, greater than, less than, subitise, above, below, under, next to, repeating pattern, yesterday, today, tomorrow, before, later, next	
	spr	Me & My World	**Spring 1** Composition To add one and subtract one with numbers to 10 (in practical activities) To add two single digit numbers using concrete and then pictorial resources Shape To compose and decompose shapes, learning which shapes combine to make other shapes	

			Measures To tackle problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy Pattern To create and recreate AB patterns **Spring 2** Comparison To estimate numbers of things, understanding relative size To explore odd and even numbers Composition To begin to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three To subtract two single digit numbers using concrete and then pictorial resources Spatial Awareness To use spatial reasoning skills (including turning and flipping objects) to create models, predict and visualise how they will look Measures To order and sequence events using everyday language related to time	
			Vocabulary Numbers 1-10, group, more, less, the same, different, ten frame, part-part-whole, addition, subtraction, length, short, long, weight, heavy, light, capacity, full, half full, empty, odd, even,estimate, subitise, predict, create, sequence, first, next, then, last, before, after	
	sum	Me Growing Up	**Summer 1** Counting To count correctly to 20 and beyond Cardinality To match the numeral with a group of items to show how many there are (up to 10) Composition To explore, represent and recall doubling facts to 10 To add two single digit numbers using concrete and pictorial resources	

			To subtract two single digit numbers using concrete and then pictorial resources <u>Spatial Awareness</u> To make simple maps of familiar and imagined environments, with landmarks <u>Pattern</u> To choose familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat **Summer 2** <u>Composition</u> To recall number bonds to 5 and some to 10 To understand the composition of numbers to 10 To distribute quantities equally into groups of 2 or 3 e.g. halving and sharing To add two single digit numbers using concrete and pictorial resources To subtract two single digit numbers using concrete and then pictorial resources To explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and "+" or "-" <u>Measures</u> To measure time with timers and calendars <u>Shape</u> To use own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build	
			Vocabulary Numbers 1-20, group, more, less, the same, different, ten frame, part-part-whole, addition, subtraction, half, double, match, subitise, map, view, above, below, repeating pattern, number bonds, sharing, halving, equal, hours, minutes, days, weeks, months, years	

Year group	term	topic	skills	knowledge

Y1	aut	Once Upon a Time	**Place Value (within 10)- 4 weeks** 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) **Addition & Subtraction (within 10) - 5 weeks** 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 **Geometry - 1 week** To recognise and name 2D shapes and their properties To recognise and name 3D shapes **Place Value (within 20)- 2 weeks** 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 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	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

			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	**Addition & Subtraction (within 20) - 4 weeks** 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 **Place Value (within 50)- 2 weeks** To identify, and represent numbers within 50 using objects and pictorial representations To compare and order numbers within 50 **Measurement - 4 weeks** To compare & measure• **length and height** To measure• **mass & volume** ———- **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'
			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	**Multiplication & Division - 4 weeks** To double numbers within 20 To solve problems reinforcing the concepts of equal groups, sharing (incl halving) and grouping **Fractions - 2 weeks** 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. **Geometry - 1 week** 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 **Statistics - 1 week** To interpret and construct simple pictograms **Place Value (within 100)- 2 weeks** To identify, and represent numbers within 100 using objects and pictorial representations To compare and order numbers within 100 **Measurement - 3 weeks** 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 To recognise & know the value of coins and notes To count amounts of money (coins) _____ **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	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

			• Count in multiples of 10, 2 and 5 in order fluently	
			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!	**Place Value - 4 weeks** 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) **Addition & Subtraction - 5 weeks** 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 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 solve story problems with addition and subtraction (including with the use of addends) **Measurement - 2 weeks** To find different combinations of coins that equal the same amount of money 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	**Multiplication & Division - 5 weeks** 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 **Fractions - 3 weeks** 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 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 calculate simple fractions of quantities To explore and recognise the equivalence of 2/4 and 1/2 **Statistics - 2 weeks** 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 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 construct block diagrams; bv accurate labelling, drawings and spacing/ vertically and horizontally **Geometry - 3 weeks (may go over to next term)** 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 **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	**Geometry - 2 weeks (may go over to next term)** To order and arrange combinations of mathematical objects in patterns and sequences To use the language of position & direction **Measurement - 8 weeks** 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 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	**Place Value - 3 weeks** 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. **Addition & Subtraction - 5 weeks** 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 add and subtract amounts of money To solve word problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures (incl. money)	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.

			Multiplication - 4 weeks To recognise the effect of multiplying 1 digit numbers by 10 and 100 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	**Multiplication - 3 weeks** 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 **Fractions - 6 weeks** 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	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

			- Reason about the location of any fraction within 1 in the linear number system 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) **Geometry - 2 weeks (may go into next term)** 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 recognise and describe 3D shapes **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	**Measurement - 1 week** 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 identify and compare numerals and roman numerals 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 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 understand and use standard units of measure to compare and estimate - **mass, volume/capacity** **Statistics - 2 weeks** To interpret scaled bar charts, pictograms and tables To construct scaled bar charts, pictograms and tables	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 recall multiples of 8 up to 12x8 in any order (including missing numbers and related division facts with growing fluency)
			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	**Place Value - 4 weeks** 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. To round any number to the nearest 10, 100 or 1,000. **Addition and Subtraction - 3 weeks** 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 **Multiplication & division 2 weeks - *skill for finding area/perimeter*** 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. **Measure - 2 weeks** 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.	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 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

			To measure and calculate **the perimeter** of a rectilinear figure. - Find the perimeter of regular and irregular polygons. **Multiplication & division - 2 weeks** 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	
			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	**Multiplication & division - 3 weeks** 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. **Measurement - 1 week**	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 find **the area** of rectilinear shapes by counting squares. **Fractions - 4 weeks** 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. Reason about the location of mixed numbers in the linear number system. To calculate fractions of quantities (What's 1/3 of 9?; bar modelling, Cuisenaire rods) **Decimals - 2 weeks** To recognise & understand the place value of each digit in a number with 2 decimal places(tenths and hundredths) 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	**Decimals - 2 weeks** 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 **Money - 1 week** To develop understanding of pounds and pence(using decimal notation) **Time - 2 weeks** To read, write and convert between analogue and digital 12 & 24 hour clocks	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,

			To solve time word problems using a number line (including start, end, duration time and converting **Statistics - 1 week** 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 **Geometry & shape - 2 weeks** 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 lines of 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 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	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)
			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	**Place value - 3 weeks** 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) **Addition & Subtraction - 3 weeks** To add and subtract numbers mentally with increasingly large numbers To add and subtract whole numbers with more than 4 digits To solve addition and subtraction multi-step word problems in contexts **Multiplication & division - 4 weeks** To identify multiples and factors: • Common factors/ prime factors • Understand and be able to name prime numbers (up to 20) 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 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 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	**Measure - 2 weeks** 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 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. **Geometry - 1 week** To identify, describe and represent the position of a shape following a reflection or translation **Fractions - 6 weeks** 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.	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 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

			- 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 **Measure - 1 week** To estimate and calculate volume and capacity **Counting:** • Count in hundredths, ¼	
			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	**Decimals - 3 weeks** 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	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)

			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. **Shape - 2 weeks** 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 **Time - 2 weeks** To solve problems involving converting between units of time (both 12 and 24-hours clocks). **Statistics - 2 weeks** To interpret and complete information in tables (including timetables) To represent data _____ **Counting:** • Count in 0.25s, 0.10s	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	**Place value - 2 weeks** 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 numbers, 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 numbers, 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. **Addition & subtraction - 2 weeks** To use negative numbers in context, and calculate intervals across zero To solve addition and subtraction word multi-step problems in contexts (bar model) **Multiplication & division - 3 weeks** To multiply multi-digit numbers up to 4 digits by a 2 digit whole number To multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places. 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 **Fractions - 4 weeks** To compare and order fractions - Express fractions in a common denomination and use this to compare fractions that are similar in value.	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)

			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 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 equivalents for a simple fraction **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		**Decimals - 1 week** 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. **Percentages - 2 weeks** To calculate percentages of an amount To convert between fractions, decimals and percentages in order to solve problems **Shape & measure - 2 weeks** 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 calculate the perimeter and area of compound shapes	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 estimate, calculate, and compare the volume of cubes and cuboids To find unknown angles in any triangles, quadrilaterals and regular polygons **Geometry - 1 week** To describe positions on the full coordinate grid (all four quadrants) To draw, translate and reflect simple shapes on the coordinate plane. **Ratio - 2 weeks** To understand the language of ratio To solve ratio and proportion problems - Solve problems involving ratio relationships. **Algebra - 2 weeks** 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.	To know different units of measure and their relationships (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?		**Statistics - 2 weeks** 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)	