



Rec.

Mathematics Progression Map

	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	week 11	week 12
Autumn	<p>Number and Numerical patterns</p> <p>Place value (within 10)</p> <p>Addition and subtraction (within 10)</p> <p>PV (within 20)</p>											
Spring	Number and Numerical patterns			Shape space and measure 2d Shape			Number and Numerical patterns					
Summer	Number and Numerical patterns						Shape space and measure 3d shape Patterns, time Money			Number and Numerical patterns		



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		Autumn	Spring	Summer
Year R	Theme	Number/Numerical patterns	Number/Numerical patterns/Shape space measure	Number/Numerical patterns
	Key knowledge	<p>Know how to say number in the correct order</p> <p>Know how to use their fingers to recognise 1 2 3 without counting</p> <p>Use dots to recognise 1 2 3</p> <p>Know how to make a colour pattern with two colours</p> <p>Know what square circle triangle cube</p> <p>Skill- follow direction instruction in front behind over under.</p> <p>Know the order to count backwards from ten</p> <p>Know the dots on a dice 1-6</p> <p>Know what their fingers look like 1-5</p> <p>To know what 1-4 look like in objects however they are positioned</p> <p>Know simple number bonds 2+2 3+3 2+1</p> <p>Know the number that comes after any number to ten.</p> <p>Know how to add more or less to a container</p>	<p>To know how to chant to 15</p> <p>To know how to use a ten frame</p> <p>To know what 1-8 looks like on a ten frame</p> <p>To know that adding will give a bigger number</p> <p>To know how to interpret the language of sides and corners</p> <p>To know how to make 5 and 6 in different ways using counters</p> <p>To know how to chant to 20</p> <p>To know to use a ten frame and recognise all quantities</p> <p>To know how to create a pattern by repeating what is already there in exactly the same order.</p> <p>To know how to make 5 and 6 in different ways using various objects</p> <p>To know the names of 2d shapes: circles and triangle</p> <p>To know 4 sided shapes</p> <p>To know how to explore shape using the language: flat, round, straight, sides, corners</p>	<p>To know how to use a ten frame and recognise all quantities</p> <p>To know how to sequence numerals to 10</p> <p>To know Doubles of numbers to 5</p> <p>To know how to share into two to find half of (even) numbers to 10</p> <p>To know that subtracting creates a smaller number</p> <p>To know one less than any number to ten</p> <p>To know all quantities of numbers up to ten in a ten frame and without a frame.</p> <p>Composition to 10</p> <p>To know patterns of numbers e.g. evens/odds</p> <p>To know Doubles of numbers to 5</p> <p>To know how to share into two to find half of (even) numbers to 10</p> <p>To know how quantities can be distributed equally</p> <p>To know the language of, volume and mass</p> <p>To know how to create patterns using 2d and 3d shapes</p> <p>To know how to make comparisons between two objects relating to: size, length, weight, and capacity.</p> <p>To understand position through words. EG, <i>the bag is under the table.</i></p> <p>To know how to compare length, weight and capacity in practical contexts.</p>



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				<p>To know that money is represented in £'s and p's</p> <p>To know that time is represented in seconds, minutes and hours.</p>
Key skills	<p>To be able to count to ten</p> <p>To be able to count objects and actions (EG how many jumps)</p> <p>To be able to Subitise 1 2 3</p> <p>To be able to recognise to 5</p> <p>To be able to continue a 2-colour alternate pattern</p> <p>To be able to find more and fewer</p> <p>To be able to name some 2d and 3d shapes</p> <p>To understand positional language in front behind over under</p> <p>To be able to count to ten forwards and backwards</p> <p>To be able to subitise 4 5 6</p> <p>To be able to sequence to 5</p> <p>To be able to Create a 3-colour repeating pattern</p> <p>To be able to find one more than any number</p> <p>To be able to find answers to simple number bonds 2+2 3+3 2+1</p> <p>To be able to compare two volumes using more and less</p>	<p>To be able to count beyond ten</p> <p>To be able to subitise 7 8</p> <p>To be able to recognise to 10</p> <p>To be able to continue any pattern using 2 criteria</p> <p>To be able to understand that adding creates more</p> <p>To be able to select correctly when hearing the features of 2d and 3d shapes</p> <p>To know composition to 6</p> <p>To be able to understand positional language – through, in between, beside</p> <p>To be able to count beyond ten</p> <p>To subitise to 9</p> <p>To be able to sequence to 10</p> <p>To know doubles up to 6+6</p> <p>To be able to create any pattern using 2 or more criteria</p> <p>To be able to understand that adding creates more</p> <p>To be able to describe features of 2d and 3d shapes</p> <p>To know composition to 6</p> <p>To be able to compare three lengths using longer shorter</p>	<p>To be able to subitise to 10</p> <p>To be able to sequence to 10</p> <p>To understand that subtracting creates a smaller number</p> <p>To know composition to 8</p> <p>To be able to subitise all numbers up to ten</p> <p>To be able to compare numbers to ten</p> <p>To be able to double and halve numbers to ten</p> <p>To be able to composition to 10</p> <p>To be able to compare quantities of length, volume and mass</p>	
Key Vocabulary	less, more, numbers 0-20, Count up /to, , after, More, less, lots, smallest,	less, more, numbers 0-20, Count up /to, after, More, less, lots, smallest, smaller, biggest	Even, odd, less, more, numbers 0-20, Count up/ to, after, more, less, lots, smallest, smaller.	



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		Equal to, the same as. repeated pattern, Colour names. In front, behind, next to, by the side of, under.	Equal to, the same as, square, triangle, circle, rectangle, sides, corners, longer, shorter, double, add, take away,	Equal to, the same as, square, triangle, circle, rectangle, sides, corners, longer, shorter, double, add, take away, share, odd even, forwards backwards. Balance. Seconds minutes hours.
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Being the best we can be

Year 1

	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	week 11	week 12
Autumn	Place Value (within 10)			Addition and Subtraction (Within 10)				Shape		PV (Within 20)		Consolidation
Spring	Addition & Subtraction (Within 20)			Place Value (Within 50)				Length & Height		Weight & Volume		Reasoning and problem solving
Summer	Multiplication & Division		Position & Direction	Place value (to 100)		Money		Time		Fractions		



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Being the best we can be

		Autumn	Spring	Summer
Year 1	Theme	Place Value (within 10)	Addition and subtraction to 20	Multiplication and division
	Key knowledge	<p>To know how to sort groups by characteristics before they count. E.g. by colour</p> <p>To know how to Count from 1 to 10 to work out how many there are.</p> <p>To know that one object can be represented by another. E.g. one elephant can be represented by one cube or counter.</p> <p>To know how to count one more.</p> <p>To know how to count one less.</p> <p>To know how to continue a number sequence forwards and backwards.</p> <p>To know how to match one object with another.</p> <p>To know how to compare numbers.</p> <p>To know how to use the language equal to, more, less, greater than, fewer and less than. introduce the \geq \leq symbol =.</p> <p>To know how to order three groups of objects.</p> <p>To know how to order numbers from smallest to greatest or greatest to smallest.</p> <p>To know how to use ordinal number language (name numbers in the right order)</p> <p>To know how to use a number line to practise and consolidate skills learnt so far.</p>	<p>To know how to explore addition by counting on from a given number.</p> <p>To know how to work systematically to help them find all the possible number bonds to 20.</p> <p>To know how to add numbers within 20 using their knowledge of number bonds.</p> <p>To know language of subtraction, recognising and using the subtraction symbol within 20.</p> <p>To know how to subtract where they have to cross ten.</p> <p>To know how to subtract numbers, within 20, crossing the 10.</p> <p>To know how to explore addition and subtraction fact families for numbers within 20.</p>	<p>To know how to count in groups of 10.</p> <p>To know how to make equal groups of objects and recognise when they are not equal.</p> <p>To know how to use equal groups to find a total.</p> <p>To know how to count in equal groups of 2, 5 and 10.</p> <p>To know how to make arrays by making equal groups and building them in columns or rows.</p> <p>To know how to explore doubles with numbers up to 20.</p> <p>To know how to start with a given total and make groups of an equal amount.</p> <p>To know sharing as a model of division.</p>
	Key skills	To be able to;	To be able to;	To be able to;



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Being the best we can be

	<p>Sort objects Count objects Represent objects Count read and write from any number from 0-10 Count read and write backwards from any number to 10. Count one more Count one less One to one correspondence to start to compare groups Compare groups using language such as equal, more/ greater, less/fewer Introduce more than, less than and = symbols Compare numbers Order groups of objects Order numbers Ordinal numbers The number line</p>	<p>Add by counting on Find and make number bonds Add by making 10 Subtraction- not crossing 10 Subtraction crossing 10 Related facts Compare number sentences</p>	<p>Count in 2s Count in 5s Count in 10s Make equal groups Add equal groups Make arrays Make doubles Make equal groups- grouping Make equal groups- sharing</p>
Key vocabulary	<p>less, more, numbers 0-10, Count (on/ up /to /from /down) Before, after, More, less, many, few, fewer, least, fewest, smallest, greater, lesser Equal to, the same as</p>	<p>Number bonds, number line, add, more, plus, make, sum, total, altogether, equals, take away, minus, subtract, less than, more than, same as, backwards, forwards, bigger than, smaller than, part, whole, two-digit numbers, numbers 0-50, tens, ones, part, whole, ten frames, numicon, subitise, denes</p>	<p>Odd, even, equal, double, groups of , lots of , sets of, rows, column's, array ,half, multiply, times, divide, share, between, more, same as, multiplied, add, take away, smaller than, bigger than, part, whole, number bonds, number line, jumps, forwards , backwards</p>
Theme	Addition and Subtraction (within 10)	Place value (to 50)	Position and direction
Key knowledge	<p>To know how to understand that a number can be partitioned into two or more parts. To know how to use at the addition symbol to create addition number sentences. To know addition fact families.</p>	<p>To know how to use practical equipment to represent numbers to 50. To know how to count forwards and backwards within 50.</p>	<p>To know how to describe position, direction and movement including whole, half, quarter and three-quarter turns. EG maze walking with partners "Do a quarter turn".</p>



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Being the best we can be

	<p>To know how to explore number bonds within 10.</p> <p>To know how to apply partitioning skills to work systematically starting with the whole.</p> <p>To know how to use knowledge of place value and number bonds to compare numbers and number sentences.</p> <p>To know how to use the part whole model to show addition.</p> <p>To know how to count on from a number to find the total.</p> <p>To know how to solve missing number problems.</p> <p>To know the language of subtraction (less than, take away, minus, difference)</p> <p>To know how to subtract by partitioning.</p> <p>To know how to link addition and subtraction fact (inverse)</p> <p>To know how to count backwards to subtract.</p> <p>To know how to explore finding the difference as a form of subtraction.</p> <p>To know how to compare statements using the inequality symbols.</p>	<p>To know how to find one more and one less than given numbers up to 50.</p> <p>To know how to compare two sets of objects using the language more than, less than and equal to.</p> <p>To know how to compare two numbers within 50 using the inequality symbols.</p> <p>To know how to order numbers within 50.</p> <p>To know how to count in 2's up to 50.</p> <p>To know how to count in 5's up to 50.</p>	
Key skills	<p>To be able to use;</p> <p>Part-whole model</p> <p>Addition symbol</p> <p>Fact families</p> <p>Addition families</p> <p>Number bonds to 10</p> <p>Systematic methods for number bonds to 10</p>	<p>To be able to use;</p> <p>Numbers to 50</p> <p>Tens and ones</p> <p>Represent numbers to 50</p> <p>Compare objects to 50</p> <p>Compare numbers to 50</p> <p>Order numbers to 50</p> <p>Count in 2s</p>	<p>To be able to;</p> <p>Describe turns</p> <p>Describe position</p>



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Being the best we can be

	<p>Compare number bonds Addition- adding together, adding more Finding a part Subtraction- finding a part, breaking apart, how many left, taking away Counting backwards</p>	Count in 5s	
Key vocabulary	<p>Number bonds, number line, add, more, plus, make, sum, total, altogether, equals, take away, minus, subtract, less than, more than, same as, backwards, forwards, bigger than, smaller than, part, whole, two-digit numbers, numbers 0-10, numicon, subatise, denes</p>	<p>less, more, numbers 0-50, Count (on/up/to/from/down) Before, after, More, less, many, few, fewer, least, fewest, smallest, greater, lesser Equal to, the same as, odd, even Pair. Units, ones, tens. Ten more/less Digit, number line.</p>	<p>Turn, half tern, three quarter turn, full turn. Clockwise, anti-clockwise, middle, bottom, above, left, right</p>
Theme	Shape	Length and Height'	Place value to 100
Key knowledge	<p>To know 2-D shapes. To know how to sort and group 2-D shapes according to their simple properties. To know how to name simple 3-D shapes. To know how to sort and group 3-D shapes according to their simple properties. To know how to use 2-D and 3-D shapes to complete and make simple patterns focusing on different shapes, sizes and colours.</p>	<p>To know how to use and understand the language of length such as long, longer, short, shorter, tall, taller. To know how to use non-standard units such as cubes, hands and straws to measure length and height. To know how to measure using a ruler in cm and metres.</p>	<p>To know how to count forwards and backwards within 100. To know how to count in groups of 10 up to 100. To know how to use partitioning to compare numbers within 100. To know how to compare numbers and amounts using comparison language (greater than, less than, equal to, smaller than, bigger than, the same as) To know how to order sets of objects and numbers from smallest to largest and largest to smallest. To know how to find one more and one less than given numbers or amounts to 100</p>
Key skills	<p>To be able to; Recognise and name 3d shapes Sort 3d shapes</p>	<p>To be able to; Compare length and height Measure length and height</p>	<p>To be able to; Counting forwards and backwards within 100 Partitioning numbers</p>



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Being the best we can be

	Recognise 2d shapes Sort 2d shapes Patterns		Comparing numbers Ordering numbers One more, one less to 100
Key vocabulary	Square, circle, rectangle, triangle. Group, sort Cube, cuboid, pyramid, sphere, cone, cylinder, Shape, flat, curved, straight, round, solid Corner (point, pointed) Face, side, edge Make, build, draw, vertices, vertex, patterns	Compare, ordering, non-standard measurements, ruler, cm, meters, meter rule, tape measure, length, width, height, depth, long, longer, longest, short shorter shortest, less than, the same as, more than, smaller, larger, greater, tall, tallest, taller.	less, more, numbers 0-100, Count (on/up/to/from/down) Before, after, More, less, many, few, fewer, least, fewest, smallest, greater, lesser Equal to, the same as, odd, even Pair. Units, ones, tens. Ten more/less Digit, number line.
Theme	Place value (to 20)	Weight and Volume	Money
Key knowledge	To know how to sort groups by characteristics before they count. E.g. by colour To know how to count from 1 to 10 to work out how many there are. To know that one object can be represented by another. E.g one elephant can be represented by one cube or counter. To know how to count to continue a number of sequence forwards and backwards. To know how to count one more. To know how to count one less. To know how to match one object with another. To know how to use the language equal to, more, less, greater than, fewer and less than. introduce the > < symbol =.	To know the terms weight and mass and how they are used. To know how to use non-standard units to measure the mass of an object EG <i>"This weighs the same as 6 cubes"</i> To know how to compare the mass of two objects using comparative language To know how to measure the capacity of different containers using non-standard units of measure. EG <i>"This bucket is 6 beakers of water."</i> To know how to compare the capacity of different containers using non-standard units of measure EG <i>"This bucket is 4 beakers of water, but this bowl is only 2 beakers."</i>	To know the value of different denominations of coins. To know how to recognise notes and their value. To know how to count in 2s, 5s and 10s To know how to count money efficiently.



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		<p>To know how to compare numbers. To know how to order three groups of objects. To know how to order numbers from smallest to greatest or greatest to smallest. To know ordinal number language. To know how to use a number line.</p>		
Key skills	<p>To be able to; Count forwards and backwards and write numbers to 20 in numerals and words Numbers from 11-20 Tens and ones Count one more and one less Compare groups of objects Compare numbers Order groups of objects Order numbers</p>	<p>To be able to; Introduce weight and mass Compare mass Introduce capacity and volume Measure capacity Compare capacity Measure mass</p>		<p>To be able to; Recognise coins and notes and count in coins,</p>
Key vocabulary	<p>less, more, numbers 0-20, Count (on/ up /to /from /down) Before, after, More, less, many, few, fewer, least, fewest, smallest, greater, lesser Equal to, the same as</p>	<p>Full, empty, half full, half empty, nearly full , nearly empty, more , less, equal, order, heavy, heavier, heaviest, light, lighter, lightest, scales, weigh, measure, grams, non-standard measurement, kilograms, balanced, lower, higher, litres, millilitres</p>		<p>Money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change, costs more, costs less, cheaper, costs the same as Total, amount</p>
Theme				Time
Key Knowledge				<p>To know the 7 days of the week To know how to use before and after to describe, sort and order daily events. To know how to tell the time to the nearest hour on an analogue clock To know how to tell the time to the half hour using an analogue clock. To know the difference between seconds, minutes and hours.</p>



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				To know how to compare amounts of time using the language faster, slower, earlier and later.
	Key Skills			To be able to: Count in minutes Count in hours Compare time using comparative signs
	Key Vocab			Days of the week: Monday, Tuesday, etc. Seasons: spring, summer, autumn, winter Day, week, month, year, weekend Birthday, holiday Morning, afternoon, evening night, midnight bedtime, dinnertime, playtime Today, yesterday, tomorrow Before, after next, last Now, soon, early, late Quick, quicker, quickest, quickly, fast, faster, fastest, slow, slower, slowest, slowly Old, older, oldest, new, newer, newest Takes longer, takes less time Hour, o'clock, half past Clock, watch, hands
	Theme			Fractions
	Key knowledge			To understand the terms equal and unequal. To know that fractions must be equal parts of a shape. To know how to find half of a shape To know how to find a quarter of a shape To know how to find a quarter of a quantity
	Key Skills			To be able to: Find half Find quarter Describe the term equal Describe the term unequal



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				Find a quarter of a quantity by halving, then halving again.
	Key vocab			Whole, half, quarter, part, equal, amount, shape, same, more, less, unequal, fraction



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Year 2

	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	week 11	week 12
Autumn	Place Value			Addition and Subtraction				Money		Reasoning and problem solving	Multiplication & Division	
Spring	Multiplication & Division		Consolidation		Statistics		Fractions			Properties of shape		
Summer	Mass, capacity & temperature		Position & Direction		Time			Length & Height		Reasoning & Problem solving		



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Year 2	Theme	Place Value'	Multiplication and Division'	Mass , capacity and temperature
	Key knowledge	<p>To know how to count objects to 100 in words and represent these numbers in numerals.</p> <p>To understand how to represent numbers to 100 using a range of concrete materials, such as bead strings, straws, Base 10 equipment etc.</p> <p>To know how a number is made up. For example, 42 is 4 tens and 2 ones.</p> <p>To understand what each digit represents when partitioning a number.</p> <p>To know how to use a part whole model to explore how tens and ones can be partitioned.</p> <p>To know how to formally present their work in the correct place value columns to aid their understanding of place value.</p> <p>To know how to compare a variety of objects using the vocabulary 'more than', 'less than' and 'equal to'.</p> <p>To understand how to use the symbols $<$ $>$ and $=$ to compare numbers.</p> <p>To know how to order numbers and objects from smallest to greatest or greatest to smallest.</p>	<p>To understand and recognise and describe equal groups.</p> <p>To know how to make equal groups.</p> <p>To understand that equal groups can connect to repeated addition.</p> <p>To know how to use the multiplication symbol and work out the total from pictures.</p> <p>To understand and explore arrays to see the commutativity of multiplication.</p> <p>To know the 2 times table.</p> <p>To know the 5 times table.</p> <p>To know the 10 times table.</p> <p>To know how to divide by sharing objects into equal groups.</p> <p>To know how to use the division symbol</p> <p>To understand how to make equal groups and then count on to find the total number of groups.</p> <p>To know how to divide by 2 using their knowledge of the 2 times table.</p> <p>To know odd and even numbers.</p> <p>To know how to divide by 5 using their knowledge of the 5 times table.</p> <p>To know how to divide by 10 using their knowledge of the 10 times table.</p>	<p>To know how to compare the mass of different objects on scales.</p> <p>To know how to use the symbols $>$ $<$ and $=$ to compare.</p> <p>To know how to read scales accurately in g and kg.</p> <p>To understand the difference between capacity and volume.</p> <p>To know how to measure liquids in ml and l.</p> <p>To know how to read ml scales along a measuring cylinder.</p> <p>To know how to compare the volume of containers using $<$ $>$ and $=$.</p> <p>To know the units of measure for temperature.</p> <p>To know how to read scales on thermometers.</p>



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Being the best we can be

		To know how to count forwards and backwards in 2s, 5s and 10s not always starting from 0. To know how to count forwards and backwards in 3s from a multiple of 3.		
Key skills	To be able to: Count forwards and backwards within 20 Tens and ones within 20 Count forwards and backwards within 20 Count forwards and backwards within 50 Compare numbers within 50 Count objects to 100 and write numbers and numerals Represent numbers to 100 Use tens and ones with a part whole model Use tens and ones using addition Use a place value chart Compare objects Compare numbers Order numbers and objects	To be able to: Recognise equal groups Make equal groups Add equal groups Multiply using the x symbol Use arrays Make doubles Use the 2 times table Use the 5 times table Use the 10 times table Make equal groups-sharing Make equal groups- grouping Divide by 2 Identify odd and even numbers Divide by 5 Divide by 10	To be able to: Understand weight and mass Measure mass Compare mass Measure mass in grams Measure mass in kilograms Introduce capacity and volume Measure capacity Measure volume Measure Millilitres Measure Litres Measure Temperature	
Key vocabulary	Order, sequence, tens and ones, forwards, backwards, numbers 0-50, compare, less, more, equal, tens, ones, ten frame, numicon, 2 digit numbers, single digit numbers, before, after, biggest, smallest	Odd, even, equal, double, groups of , lots of , sets of, rows, column's, array ,half, multiply, times, divide, share, between, more, same as, multiplied, add, take away, smaller than, bigger than, part, whole, number bonds, number line, jumps, forwards , backwards.	Volume, mass, capacity, non-standard units, jugs, cubes, litres, millilitres, kilograms, grams, weight, Celsius, temperature, same as, bigger, smaller, degrees, hot, cold, frozen, Full, empty, half full, half empty, nearly full , nearly empty, more , less, equal, order, heavy, heavier, heaviest, light, lighter, lightest, scales, weigh, measure, grams, non-standard measurement, kilograms, balanced, lower, higher	
Theme	Addition and subtraction	'Statistics'	Position and Direction'	
Key knowledge	To know mental and written methods for addition and subtraction	To know that tally charts are a systematic method of recording data.	To know the language of describing movement ('forwards', 'backwards', 'up', 'down', 'left' and	



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		<p>To know how to recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p> <p>To know how to add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> a two-digit number and 1s a two-digit number and 10s 2 two-digit numbers 3 one-digit numbers <p>To know how to show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot.</p> <p>To know how to solve problems with addition and subtraction:</p> <ul style="list-style-type: none"> using concrete objects and pictorial representations, including those involving numbers, quantities and measures <p>To know how to recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p>	<p>To understand how to use tally charts to produce pictograms.</p> <p>To know how to answer and interpret questions about the data presented in pictograms.</p> <p>To know how to draw pictograms where the symbols represent 2, 5 or 10 items.</p> <p>To know how to ask and answer questions about a block diagram.</p>	<p>'right')</p> <p>To understand how to describe turns using the language 'full turn', 'half turn', 'quarter turn', 'three-quarter turn',</p> <p>To understand 'clockwise' and 'anti-clockwise'.</p> <p>To know how to describe and record directions.</p> <p>To know how to describe and create patterns that involve direction and turns.</p>
Key skills		<p>To be able to:</p> <ul style="list-style-type: none"> Use fact families- addition and subtraction bonds to 20 Check calculations Compare number sentences Use related facts Use no bonds to 100 Add and subtract 1s 	<p>To be able to:</p> <ul style="list-style-type: none"> Make tally charts Draw pictograms Interpret pictograms Block diagrams 	<p>To be able to:</p> <ul style="list-style-type: none"> Describe position Describe movement Describe turns Making patterns with shapes



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Being the best we can be

		<p>Add by making 10 Add a 2 digit and 1 digit number – crossing 10 Subtract – crossing 10 Subtract a 1-digit number from a 2-digit number crossing 10 Add two 2-digit numbers – not crossing ten Add two 2-digit numbers – crossing ten</p>		
	Key vocabulary	<p>Add, more than, less than, addition, subtraction, take away, less, least, most, equal, repeat, column, calculate, add on, number line, 100 squares, tens, ones, numbers to 100, one digit, two-digit, three digit.</p>	<p>Tally, chart, total, altogether, more, less, difference, data, count, column, rows, horizontal, vertical, pictogram, analyse, represent, count on, symbol, count in 2s, count in 5s, count in 10s, subtract, multiply, divide, difference between, most, least, popular, least popular</p>	<p>Position, over, under, underneath, above, below, top, bottom, side, on, in, outside, inside around, in front, behind, Front, back, before, after, besides, next to, opposite, apart, between, middle, edge, center, corner direction journey Left, right, up, down, forwards, backwards, sideways across, close, far, near, along, though, to, from, towards, away from Movement Slide, roll, turn, whole turn, half turn Stretch, bend.</p>
	Theme	Money	Fractions'	Time
	Key knowledge	<p>To know, recognise and use symbols for pounds (£) and pence (p). To know how to combine amounts to make a particular value To understand different combinations of coins can equal the same amount of money To know how to solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</p>	<p>To understand the terms numerator and denominator. To understand the concept of a whole as being on object or one quantity. To understand that halving is splitting a whole into two equal parts. To know that fractions must be equal parts of a whole. To know how to find half of a set of objects or quantity. To know how to recognise and find quarters of shapes, objects and quantities.</p>	<p>To know units of time: Seconds, minutes, hours, days, weeks, years. To know the days of the week and months of the year. To understand how to measure time To know how to compare time To know how sequence time To know how to tell the time to the nearest 5 minutes To know how to draw the hands on a clock face To know the number of minutes in an hour To know the amount of hours in a day</p>



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			<p>To use understanding of fractions to find thirds of a shape and quantity.</p> <p>To know the difference between unit and non-unit fractions. Such as; $\frac{1}{3}$ and $\frac{3}{4}$.</p>	
	Key skills	<p>To be able to:</p> <ul style="list-style-type: none"> Recognise coins and notes Count money- pence Count money-pounds Count money-notes and coins Select money Make the same amount Compare money Find the total Find the difference Find change Solve two step problems 	<p>To be able to:</p> <ul style="list-style-type: none"> Make equal parts Recognise a half Find a half Recognise a quarter Find a quarter Recognise a third Find a third Unit fractions Non-unit fractions Equivalence of $\frac{1}{2}$ and $\frac{2}{4}$ Find three quarters Count in fractions 	<p>To be able to:</p> <ul style="list-style-type: none"> Tell the time to nearest 5 minutes Use the terms O'clock and half past Use the terms quarter past and quarter to Write the time Tell how many minutes in an hour and hours in a day Find durations of time Compare durations of time
	Key vocabulary	<p>Pounds, pence, notes, coins, change, more than, same, less than, fewer, most, exact, round up, round down, count up, count down, count in tens, twos, fives, compare, equals, symbols, money, currency, pay</p>	<p>Whole, part, object, quantity, equal, same, different, quantity, shape, object, length, sharing, half, halve, shade, quarters, half, thirds, fraction, measure, shape, quantity, length, numerator, denominator, equivalent, most, least</p>	<p>Days of the week: Monday, Tuesday, etc.</p> <p>Seasons: spring, summer, autumn, winter</p> <p>Day, week, month, year, weekend</p> <p>Birthday, holiday Morning, afternoon, evening night, midnight bedtime, dinnertime, playtime</p> <p>Today, yesterday, tomorrow Before, after next, last Now, soon, early, late</p> <p>Quick, quicker, quickest, quickly, fast, faster, fastest, slow, slower, slowest, slowly</p> <p>Old, older, oldest, new, newer, newest Takes longer, takes less time Hour, o'clock, half past</p> <p>Clock, watch, hands, quarter past, quarter to</p>



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Theme	Multiplication and division	Properties of Shape'	Length and height
Key knowledge	<p>To know odd and even numbers</p> <p>To know, recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables,</p> <p>To know how to calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals ($=$) signs</p> <p>To understand that multiplication of two numbers can be done in any order (commutative) but division cannot be done in any order.</p> <p>To know how to solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p>	<p>To know how to recognise and name both 2D and 3D shapes.</p> <p>To know how to count the sides of a shape accurately</p> <p>To understand that not all shapes have sides the same length.</p> <p>To understand the terms vertex and vertices and recognise them on a shape.</p> <p>To know how to accurately create 2D shapes.</p> <p>To know how to half a shape along a vertical line of symmetry.</p> <p>To know how to recognise and sort 2D shapes in more than one way.</p> <p>To know how to create patterns using 2d shapes</p> <p>To know how to identify the shape of faces on 3D shapes.</p> <p>To know how to identify edges on 3D shapes.</p> <p>To know how to identify vertices on 3D shapes.</p> <p>To know how to sort 3D shapes in more than one way.</p> <p>To know how to make patterns using 3D shapes.</p>	<p>To know how choose a unit of measure for accuracy EG <i>mm for measuring a pencil, metres for measuring the playground.</i></p> <p>To know how to estimate length and height</p> <p>To know how to measure with accuracy, both vertically and horizontally</p>
Key skills	<p>To be able to:</p> <p>Make equal groups</p> <p>Add equal groups</p> <p>Make arrays</p>	<p>To be able to:</p> <p>Recognise 2D and 3D shapes</p> <p>Count sides on 2D shapes</p> <p>Count vertices on 2D shapes</p> <p>Draw 2D shapes</p> <p>Lines of symmetry</p> <p>Sort 2d shapes</p>	<p>To be able to:</p> <p>Measure lengths cm and m</p> <p>Compare lengths cm and m</p> <p>Order lengths</p> <p>Operations in length</p>



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			<p>Make patterns with 2d shapes Count faces on 3d shapes Count edges on 3d shapes Sort 3d shapes Make patterns with 3d shapes</p>	
	Key vocabulary	<p>Odd, even, equal, double, groups of, lots of, sets of, rows, column's, array, half, multiply, times, divide, share, between, more, same as, multiplied, add, take away, smaller than, bigger than, part, whole, number bonds, number line, jumps, forwards, backwards.</p>	<p>Difference, shape, faces, edges, vertices, vertex, 2D, 3D, flat, curved, same, different, count, measure, draw middle, end, ruler, copy, symmetry, half, equal, vertical, horizontal, sideways, square face, circular face, triangular face, rectangular face, sides, rectangle, square, circle, triangle, oval, hexagon, pentagon, octagon, sphere, cube, cuboid, Square, circle, rectangle, triangle. Group, sort Cube, cuboid, pyramid, sphere, cone, cylinder, square based pyramid</p>	<p>Compare, ordering, non-standard measurements, ruler, cm, meters, meter rule, tape measure, length, width, height, depth, long, longer, longest, short shorter shortest, less than, the same as, more than, smaller, larger, greater, tall, tallest, taller, difference between,</p>



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Year 3

	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	week 11	week 12
Autumn	Place Value			Addition & Subtraction				Multiplication & Division				Reasoning and problem solving
Spring	Multiplication & Division			Money	Statistics		Length & Perimeter			Fractions		
Summer	Fractions		Time			Properties of shape			Mass & Capacity		Consolidation	



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Year 3	Theme	Place Value	Multiplication and division	Fractions
	Key knowledge	<p>To know how to use base 10 to become familiar with numbers up to 1000</p> <p>To understand use of tens and link this to 100 understanding that ten tens make 100.</p> <p>To know how to read and write numbers in numerals and words</p> <p>To know how to find 1, 10 or 100 more or less than given number</p> <p>To understand that a 3-digit number is made up of 100s, 10s and 1s. <i>They should be able to represent different 3-digit numbers in various ways such as Base 10 or place value counters.</i></p> <p>To know how to compare and order numbers up to 1000</p> <p>To know how to identify, represent and estimate numbers using different representations</p> <p>To know how to estimate, work out and write numbers on a number line.</p> <p>To know how to estimate, work out and write numbers on a number line.</p> <p>To know how to find 10 and 100 more/less. (build on Y2)</p> <p>To understand how to use comparative language and symbols to determine which number is greatest/smallest.</p>	<p>To know how to order a set of numbers from smallest to greatest and greatest to smallest, explaining their reasoning throughout.</p> <p><i>EG This set of numbers are all in the 3 times tables and should go in ascending order.</i></p> <p>To know how to use patterns in the 5 times table the children will learn to count forwards and backwards in steps of 50.</p> <p>To know how to use column method multiplication to solve:</p> <p>2 digit x 1 digit</p> <p>3 digit x 1 digit.</p> <p>To know how to use a written method (bus stop) to solve division problems:</p> <p>2 digit divide by 1 digit</p> <p>3 digit divide by 1 digit</p> <p>4 digit divide by 1 digit</p> <p>To know that division is the inverse of multiplication</p>	<p>To understand how to recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators EG $\frac{1}{4} = \text{UNIT}$ $\frac{3}{4} = \text{NON UNIT}$</p> <p>To know how to recognise and use fractions of numbers: unit fractions and non-unit fractions with small denominators</p> <p>To know how to recognise and show, using diagrams, equivalent fractions with small denominators</p> <p>To know how to add and subtract fractions with the same denominator within one whole EG $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$</p> <p>To know how to compare and order unit fractions, and fractions with the same denominators</p> <p>To know how to solve problems that involve all of the above</p>



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Key skills	<p>Represent numbers to 100 Tens and ones using addition Hundreds Represent numbers to 1,000 100s, 10s and 1s Number line to 1,000 Find 1, 10, 100, more or less than a number Compare objects to 1,000 Compare numbers to 1,000 Order numbers Count in 50s</p>	<p>Consolidate 2,4- and 8-times tables Comparing statements Related calculations Multiply 2 digits by 1 digit Divide 2 digit by 1 digit</p>	<p>Making the whole Tenths Count in tenths Tenths as decimals Fractions on a number line Fractions on a set of objects Equivalent fractions Compare fractions Order fractions Add fractions Subtract fractions</p>	
Key vocabulary	<p>Ones, tens, hundreds, digit, one, two, three-digit numbers. Place, place value, stands for, represents exchange, the same as, as many as, more, greater, bigger, larger, fewer, smaller, less, fewest, least, most, biggest, one more, ten more, one hundred more, one less, ten less, one hundred less, equal to, compare, order, size, first, second etc. last, last but one, before, after, next, between, halfway, above, below.</p>	<p>Multiplication, multiply, multiply by, factor, groups of, times, product, once twice, three times ten times, repeated addition,</p>	<p>Ratio, fraction, proper/ improper fraction, equivalent fraction, mixed number, numerator, denominator, equivalent, reduced to, cancel, equal parts, equal grouping, equal sharing, parts of a whole, half, two halves, one of two, equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths, hundredths, thousandths, decimal, decimal fractions, decimal point, decimal place, decimal equivalent, proportion, in every, for every,</p>	
Theme	Addition and Subtraction'	Money	Time	
Key knowledge	<p>To know how to mentally; Add 3-digit to 1-digit Add 3-digit to 2-digit</p>	<p>To know how to add and subtract amounts of money</p>	<p>To know how to record and compare time in terms of seconds, minutes and hours</p>	



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		<p>Add 3-digit to 3-digit Subtract 1-digit from 3-digit Subtract 2-digit from 3-digit Subtract 3-digit from 3-digit</p> <p>To know how to use columnar method for addition and subtraction of up to 3-digit numbers.</p> <p>To understand how to estimate the answer to a calculation using rounding</p> <p>To know how to use the inverse calculation to check answers.</p> <p>To know how to solve problems including missing number problems.</p>	<p>To know how to calculate change, using both £ and p in practical contexts To know how to convert between £'s and p's.</p>	<p>To understand how to use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight To know the number of seconds in a minute and the number of days in each month, year and leap year To understand how to compare durations of events <i>EG compare how long it takes to brush your teeth vs how long it takes to get to school.</i> To know how to tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks To know how to estimate and read time with increasing accuracy to the nearest minute.</p>
	Key skills	<p>Add numbers mentally, including: a three-digit number and 1s, 10s or 100s Subtract numbers mentally, including: a three-digit number and 1s, 10s or 100s Add numbers with 3 or more digits using a formal written method (column method) Subtract numbers with 3 or more digits using a formal written method (column)</p>	<p>Count money – pence Count money- pounds Pounds and pence Convert pence and pounds Add money Subtract money Give change</p>	<p>O'clock and half past Quarter past and quarter to Months and years Hours in a day Telling the time to 5 mins Using am and pm 24-hour clock Finding the duration Compare durations Start and end times Measuring time in seconds Measuring time in minutes Estimating time</p>
	Key vocabulary	<p>Addition, add, more, and, make, sum, total, altogether, double, near double, half, 1 more, two more, ten more, how much</p>	<p>Coins 2p, 5p, 10p, 20p, 50p, 1.00, pound, penny, pence, cost, price, buy, sell, sold, spent, spend,</p>	<p>Time, days of the week, months of the year, seasons, day, weekend, fortnight, month, year, century, birthday, holiday, morning, afternoon,</p>



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		more? take away, left over, 1 less, 2 less, 100 less, fewer, difference between, equals, same as, number bonds, missing numbers,	change, dear, more, cheap, less, cheaper, same as, how much... how many fewer,	evening, night, bedtime, dinner time, playtime, today, yesterday, tomorrow, before, after, earlier, later, first, next, last, midnight, calendar, date, now, soon, early, late, quick, slow, old, new, how long to... hour, o'clock, half past, quarter past, quarter to 5, 19, 15, mins past clock, face, watch, hands, digital, analogue, timer, minute, seconds.
	Theme	Multiplication and Division'	Statistics	Properties of Shape
	Key knowledge	<p>To know how to recall all multiplication facts up to 12x12</p> <p>To know how to multiply or divide by 10 or 100.</p> <p>To know how to use known multiplication facts to solve other multiplication problems.</p> <p><i>EG I know that 5×7 is 35, so 6 times 7 is $35 + 7 = 42$.</i></p> <p>To understand that because one of the numbers on the calculation is ten times bigger then the answer will also be ten times bigger.</p> <p>To know how to use their understanding of repeated addition to represent a two-digit number multiplied by a one-digit number.</p> <p>To know how to divide two-digit numbers by a one-digit number by partitioning into tens and ones and sharing into equal groups.</p>	<p>To know how to interpret and present data using bar charts, pictograms and tables.</p> <p>To know how to create bar charts, pictograms and tables to display data.</p> <p>To understand how to interpret information in pictograms and tally charts in order to construct bar charts.</p> <p>To understand how to solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables.</p> <p><i>EG 'How many more?' and 'How many fewer?'</i></p>	<p>To know how to draw 2-D shapes.</p> <p>To know that angles can be a property of shape</p> <p>To know that angles can be a description of a turn.</p> <p>To know right angles and understand that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; To know whether angles are greater than or less than a right angle</p> <p>To know how to identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p> <p>To understand how to recognise 3-D shapes in different orientations and describe them</p> <p>To know how to model 3-D shapes using modelling materials and nets</p>



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		<p>To understand and explore problems involving scaling using the vocabulary 'times as many'.</p> <p>To know how to work systematically to find as many different combinations for a given number of objects as possible.</p>		
	Key skills	<p>Multiplication-equal groups</p> <p>Multiplication using the symbol</p> <p>Using arrays</p> <p>2 times tables</p> <p>5 times tables</p> <p>Make equal groups- sharing</p> <p>Make equal groups-grouping</p> <p>Divide by 2, Divide by 5, Divide by 10</p> <p>Multiply by 3, Divide by 3, 3 times table</p>	<p>Make tally charts</p> <p>Draw pictograms (2,5,10)</p> <p>Interpret pictograms (2,5,10)</p> <p>Pictograms</p> <p>Bar charts</p> <p>Tables</p>	<p>Turns and angles</p> <p>Right angles in shapes</p> <p>Compare angles</p> <p>Draw accurately</p> <p>Horizontal and vertical</p> <p>Parallel and perpendicular</p> <p>Recognise and describe 2d shapes</p> <p>Recognise and describe 3d shapes</p> <p>Make 3d shapes</p>
	Key vocabulary	<p>Multiplication, multiply, by, groups of, times.....left, left over, remainder, grouping, sharing, equally, group, doubling, halving, array, row, column, number pattern</p> <p>multiplication table, fact, division</p> <p>fact.division, left, left over, remainder, grouping, sharing, share, equally, one each, two each, three each, group in pairs, equal groups, doubling, halving, array, row column number patterns, multiplication, multiplication fact, division fact. table,</p>	<p>Count, tally, sort, vote, graph, block graph, pictogram, represent, group, set, list, table, chart, bar chart, frequency table, carol diagram, Venn diagram, label, title, axis, most popular, most common, least popular, fewer, difference.</p>	<p>Shape, pattern, flat, curved, straight, hollow, solid, sort, make, build, draw, perimeter, surface, size, bigger,larger, smaller, symmetry, symmetrical, line symmetry, repeated pattern, match, corner, side, pointed, rectangle, circe, triangle, pentagon, pentagonal, hexagon, octagon, quadrilateral, right- angled, parallel, perpendicular, face, edge, vertex, verticies, cube, cuboid, pyramid, sphere, hemisphere, cone, cylinder, prism, triangle , prism, triangular prism.</p>
	Theme		Length and perimeter	Mass and capacity
	Key knowledge		<p>To know how to measure in cm/mm/m</p> <p>To know how to compare using cm/mm/m</p> <p>To know how to add or subtract using cm/mm/m</p>	<p>To know how to measure in ml/l</p> <p>To know how to compare using ml/l</p> <p>To know how to add or subtract using ml/l</p> <p>To know how to convert between ml/l</p>



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			<p>To know how to convert between mm/cm/m (\times or \div 10/100)</p> <p>To know how to add and subtract lengths (m/cm/mm);</p> <p>To know how to measure the perimeter of simple 2d shapes (eg square, rectangle)</p> <p>To know how to calculate perimeter</p>	<p>To know how to add and subtract ml/l</p> <p>To know how to measure in g/kg</p> <p>To know how to compare using g/kg</p> <p>To know how to add or subtract using g/kg</p> <p>To know how to convert between g/kg</p> <p>To know how to add and subtract g/kg</p>
	Key skills		<p>Measure length</p> <p>Equivalent lengths m and cm</p> <p>Compare lengths</p> <p>Add lengths</p> <p>Subtract lengths</p> <p>Measure perimeter</p> <p>Calculate perimeter</p>	<p>Compare mass</p> <p>Measure mass</p> <p>Add and subtract mass</p> <p>Measure volume</p> <p>Measure capacity</p> <p>Compare capacity</p> <p>Add and subtract capacity</p> <p>temperature</p>
	Key vocabulary		<p>Millimetre, centimetres, metre, kilometre, mile, length, height, width, depth, long, short, tall, high, low, wide, narrow, thick, thin, longer, shorter, taller, higher, longest, far, further, near, close, distance from apart, between, to, from, perimeter. Measure, measurement, size, compare, scale, division, guess, estimate, enough, not enough, too much, too little, too few, the same as, approximately, roughly, just over, just under.</p>	<p>Litre, half litre, millilitre, capacity, volume, full, empty, more than, less than, half full, quarter full, holds, container, kilogram, half kilogram, gram, weight, balances, heavy, light, heavier than, lighter than, heaviest, lightest, scales, .exact, exactly, too many, too less, too few, enough, not enough, round, nearest, nearest ten, hundred, round up, round down.</p>
	Theme		Fractions	
	Key knowledge		<p>To know how to recognise half of a shape</p> <p>To know how to half a shape or amount</p> <p>EG <i>finish off this unfinished shape OR what is half of 16?</i></p> <p>To know how to recognise $\frac{1}{4}$ of a shape</p>	



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			<p>To know how to split a shape into quarters To know how to find one quarter of an amount To recognise and show equivalent fractions To know how to count up and down in tenths; <i>recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</i> To recognise a mixed number and an improper fraction</p>	
	Key skills		<p>Make equal parts Recognise half Find a half Recognise quarter Find a quarter (half it, half it again) Find a third Recognise a third Unit fractions Non-unit fractions Equivalence of $\frac{1}{2}$ and $\frac{2}{4}$ Count in fractions</p>	
	Key vocabulary		<p>Fraction, equivalent fraction, mixed number, numerator, denominator, equal parts, equal grouping, equal sharing, parts of a whole, half, two halves, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one, three equal parts. sixths, sevenths, eighths, tenths,</p>	



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Year 4

	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	week 11	week 12
Autumn	Place Value			Addition & Subtraction				Multiplication & Division				Length and Perimeter
Spring	Money		Statistics		Reasoning & problem solving with Statistics, Money		Properties of shape			Fractions		
Summer	Decimals			Measurement		Position & Direction			Time		Consolidation	



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Year 4	Theme	'Place Value'	Multiplication and division	Decimals
	Key knowledge	<p>To know Roman Numerals to 12 and explore numerals to 100.</p> <p>To understand how to look at the position of a 2-digit number on a number line and then find the position of 3 digit numbers.</p> <p>To know how to round numbers to the nearest 10, 100 and 1000.</p> <p>To understand that 1 thousand is made up of ten hundred. (discussed)</p> <p>To know how to count in multiples of 1000. (discussed)</p> <p>To know how to represent numbers to 9999 using a place value grid and understand that a four-digit number is made up of 1000's, 100s, 10s and 1s.</p> <p>To understand that number can be partitioned in different ways.</p> <p>To know how to estimate, label and draw numbers on a number line to 10000 and count forwards and backwards along the number line in equal steps.</p> <p>To know how to find 1, 10, 100 and 1000 more or less than a given number.</p> <p>To know how to compare 5-digit numbers using comparison language and symbols to show which is greater and which is smaller.</p>	<p>To know multiplication and division facts for multiplication tables up to 12×12</p> <p>To understand how to use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers</p> <p>To know how to use factor pairs and commutativity in mental calculations</p> <p>multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p> <p>To know how to solve problems involving multiplying and adding..</p>	<p>To know how to recognise and write decimal equivalents of any number of tenths or hundredths</p> <p>To understand and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$.</p> <p>To know how to find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</p> <p>To know how to round decimals with one decimal place to the nearest whole number</p> <p>To understand how to compare numbers with the same number of decimal places up to two decimal places</p> <p>To know how to solve simple measure and money problems involving fractions and decimals to two decimal places.</p>



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		Children explore ordering a set of numbers in ascending and descending order. Count in 25's. (did as a mental starter) To know that there are numbers below zero and count back through zero.		
Key skills	Represent numbers to 1,000 100's, 10s and 1s Number line to 1,000 Round to the nearest 10 Round to the nearest 100 Count in 1000s 1000s 100s 10s and 1s Partitioning Number line to 10,000 Find 1, 10,100 more or less 1,000 more or less Compare numbers	11- and 12-times tables Multiply 3 numbers Factor pairs Efficient multiplication Written methods Multiply 2 digits by 1-digit number Divide 2 digit by 1-digit number	Recognise tenths and hundredths Tenths as decimals Tenths on a place value grid Tenth on a number line Divide 1 digit by 10 Divide 2 digit by 10 Hundredths Hundredths ad decimals Hundredths on a place value grid Divide 1 or 2 digits by 10	
Key vocabulary	Ones. Tens, hundreds, digit, 1,2,3-digit number, place, place value, stands for, represents, exchange, the same as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, one more, ten more, hundred more, thousand more and less, equal to, compare, order, size, 1 st , 2 nd etc. last, last but 1, before, after, next, between, halfway, between, above, below.	Multiplication, multiply, multiplied by, multiple, factor, groups of, times, product, once, twice, three, times etc. repeated addition, division, dividing up, divided by, divided into, eft, left over, remainder, grouping, sharing, share equally, groups in pairs, threes, tens etc, equal groups, doubling, halving, array, row, column, number patterns, multiplication table, multiplication fact, division fact, inverse, square, squared, cube, cuboid.	Tens, ones, decimal point, tenth, s hundredths, greater than, equivalent, less than, decimal, centimetre, millimetre, tenths, hundredths, decimal point 0.1 and 0.01 equivalent, whole number, rounding, greater than, equal to, compare, convert, ascending, descending, order.	
Theme	Addition and subtraction	Money	Measurement	
Key knowledge	To know how to add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	To know how to estimate, compare and calculate different measures, including money in pounds and pence To understand pounds and pence and convert between different units of money.	To know how to convert between different units of measure [for example, kilometre to metre; hour to minute]	



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		<p>To know how to use inverse operations to check answers to a calculation</p> <p>To know how to solve addition and subtraction word problems in contexts, deciding which operations and methods to use and why</p> <p>To know how to solve two-step word problems</p>	<p>To know how to compare amounts of money.</p> <p>To know how to round amounts of money written in decimal notation to the nearest pound.</p> <p>To understand how to solve simple problems with money involving all four operations.</p>	<p>To know how to measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p> <p>To know how to find the area of rectilinear shapes by counting squares</p> <p>To know how to estimate, compare and calculate different measures, including money in pounds and pence</p> <p>To know how to read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <p>To know how to solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days</p>
	Key skills	<p>Add and subtract 1s,10s,100s and 1,000s</p> <p>Add two 3-digit numbers not crossing 10 or 100</p> <p>Add two 4-digit numbers -no exchange</p> <p>Add two 3-digit numbers crossing 10 or 100</p> <p>Add two 4-digit numbers – one exchange</p> <p>Add two 4-digit numbers- more than one exchange</p> <p>Subtract a 3-digit number from a 3-digit number- no exchange</p> <p>Subtract two 4-digit numbers- one exchange</p> <p>Subtract two 4 digit numbers – more than one exchange</p> <p>Efficient subtraction</p> <p>Estimate answers</p> <p>Checking strategies</p>	<p>Pounds and pence</p> <p>Ordering money</p> <p>Estimating money</p> <p>Convert pounds and pence</p> <p>Add money</p> <p>Subtract money</p> <p>Find change</p> <p>Four operations</p>	<p>To be able to read analogue clock</p> <p>To be able to read digital clock</p> <p>To know units of time;</p> <p>Seconds</p> <p>Minutes</p> <p>Hours</p> <p>Days</p> <p>Weeks</p> <p>Months</p> <p>Years</p>



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	Key vocabulary	Addition, add, more, and make, sum, total, altogether, double, near double, half, one more, two more, ten more, one hundred more, how many more? Than, subtract, take away, minus, one less, two less etc. difference between, equals, is the same as, number bonds, facts, pairs, missing numbers, tens boundary, hundreds boundary, inverse.	area, covers, surface square centimetre (cm ²)	Seconds Minutes Hours Days Weeks Months Years O clock past, to, quarter, half.
	Theme	Multiplication and Division'	Statistics	Position and direction
	Key knowledge	<p>To know how to multiply by 10. To know how to multiply by 100 To know how to divide numbers by 10 and 100 which give a whole number answer. To understand and explore the result of multiplying by 1 and 0. To know what happens to a number when you divide it by 1 or itself. To know how to use their knowledge of times tables facts in order to multiply and divide by 6. To know the 'Associative Law' to multiply 3 numbers. This law focuses on the idea that it doesn't matter how we group the numbers when we multiply. E.g. $4 \times 5 \times 2 = (4 \times 5) \times 2 = 20 \times 2 = 40$ or $4 \times 5 \times 2 = 4 \times (5 \times 2) = 4 \times 10 = 40$. To know that a factor is a whole number that multiplies by another number to make a product. E.g. $3 \times 5 = 15$, factor x factor = product.</p>	<p>To understand how to interpret data To know how to present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. To know how to solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs</p>	<p>describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down plot specified points and draw sides to complete a given polygon</p>



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		<p>To know how to find factor pairs of numbers</p> <p>To know how to investigate factors EG <i>abundant numbers</i></p> <p>To know a mental multiplication by exploring different ways to calculate.</p> <p>To know how to divide a 2 digit number by 1 digit using a formal written method</p>		
	Key skills	<p>Multiply by 10</p> <p>Multiply by 100</p> <p>Divide by 10</p> <p>Divide by 100</p> <p>Multiply by 1 and 0</p> <p>Divide by 1 and itself</p> <p>Multiply and divide by 4</p> <p>3 times table</p> <p>Multiply and divide by 6</p> <p>6 times table and division facts</p> <p>Multiply and divide by 9</p> <p>9 times table and division facts</p> <p>Multiply and divide by 7</p> <p>7 times table and division facts</p>	<p>Interpret charts</p> <p>Comparison sum and difference</p> <p>Line graphs</p>	
	Key vocabulary	<p>Multiplication, multiply, multiplied by, multiple, factor, groups of, times, product, once, twice, three, times etc. repeated addition, division, dividing up, divided by, divided into, eft, left over, remainder, grouping, sharing, share equally, groups in pairs, threes, tens etc, equal groups, doubling, halving, array, row, column, number patterns, multiplication table,</p>	<p>Interpret charts, count, tally, sort, vote, survey, questionnaire, data, graph, block graph, pictogram, represent, groups, set, list, table, chart, bar chart, frequency table, carolle diagram, Venn diagram, title, axes, most popular, most common, least popular, least common.</p>	



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		multiplication fact, division fact, inverse, square, squared, cube, cuboid.		
	Theme	Length and perimeter	Properties of shapes	Time
	Key knowledge	To know how to convert between different units of measure [for example, kilometre to metre; hour to minute] To know how to measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres To understand how to find the area of rectilinear shapes by counting squares	To understand how to compare and classify geometric shapes (including quadrilaterals and triangles, based on their properties and sizes) To know acute and obtuse angles and compare and order angles up to two right angles by size To know lines of symmetry in 2-D shapes presented in different orientations To understand how to complete a simple symmetric figure with respect to a specific line of symmetry.	To know how to read, write and convert time between analogue and digital 12- and 24-hour clocks To know how to solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
	Key skills	Equivalent lengths – m and cm and mm Kilometres Add lengths Subtract lengths Measure perimeter Perimeter on a grid Perimeter of a rectangle Perimeter of rectilinear shapes	To be able to: Turns and angles Right angles in shapes Compare angles Identify angles Compare and order angles Recognise and describe 2d and 3d shapes Triangles Quadrilaterals Horizontal and vertical Lines of symmetry Complete a symmetric figure	Telling time to 5 minutes Telling time to the minute Using am and pm 24-hour clock Hours, minutes and seconds Years months weeks and days Analogue to digital – 12 hours Analogue to digital – 24 hours
	Key vocabulary	Millimetre, centimetre, metre, kilometre, mile, length, height, width, breadth, long, tall, short, high, low, wide, narrow, thick, thin, longer, shorter, taller, etc. far, furthest, near, close, distance, apart, between, to from, edge, perimeter, are, covers, square, centimetre (cm ²) ruler metre stick, tape measure.	Shape, pattern, flat, line, curved, straight, round, hollow, solid, sort, make, build, construct, draw, sketch, perimeter, centre, surface, angle, square based. size, bigger, larger, smaller, symmetry, symmetrical, pattern, reflect, pattern, regular, irregular, 2D shape- corner, side, point, pointed, rectangle, oblong, rectilinear, circle, triangle,	Time, days of the week, months of the year, seasons, day, weekend, fortnight, month, year, leap year, century, millennium, birthday, holiday, morning, afternoon, evening, night, bedtime, dinner time, playtime, today, yesterday, tomorrow, before, after, earlier, later, next, first, last, calendar, date, date of



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			<p>equilateral triangle, isosceles triangle, scalene triangle, pentagon, pentagonal, hexagon and hexagonal, heptagon, heptagonal, octogen, octagonal, quadrilateral, parallelogram, rhombus, trapezium, poly gone, right-angled, parallel, perpendicular, 3D shape- 3 dimensional, face, edge, vertex, vertices, cube, cuboid, pyramid, sphere, hemisphere, spherical, cylinder, cylindrical, prism, triangular prism, Tetrahedron, poly hedron</p>	<p>birth, now, soon, early, late, less time, always, sometimes, hour, quarter to, half past, quarter past, quarter to, 5, 10, 15, minutes past a.m., pm, clock, clock face, watch, hands, digital, analogue, timer, hour hand, minute hand, hours, seconds, timetable, arrive, roman numerals. 12-hour clock, 24-hour clock.</p>
	Theme		Fractions	
	Key knowledge		<p>To know how to recognise and show, using diagrams, families of common equivalent fractions To know how to count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. To know how to solve problems fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number To know how to add and subtract fractions with the same denominator To know how to convert between an improper fraction and a mixed number</p>	
	Key skills		<p>Unit and non-unit fractions What is a fraction? Tenth Count in tenths Equivalent fractions Fractions greater than 1 Count in fractions Add fractions Add 2 or more fractions</p>	



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			Understand that an improper fraction has a larger numerator than denominator	
	Key vocabulary		Fractions, equivalent fraction, mixed number fraction, numerator, denominator, equal part, equal grouping, equal sharing, parts of a whole, half, two halves, one two equal parts, quarter, two quarters, three quarters, one of four equal parts one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths, hundredths, decimal, decimal fraction, decimal point, decimal place, decimal equivalent, proportion.	



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Year 5



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	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	week 11	week 12
Mental arithmetic weekly – covering all four operation and FDP throughout the year												
Autumn	Place Value			Addition & Subtraction		Multiplication & Division			Area & Perimeter		Statistics	
Spring	Multiplication & Division		Fractions				Decimals and Percentages			Volume		
Summer	Decimals		Properties of shape		Position and direction		Converting units		Reasoning and problem solving			



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	Theme	Place Value'	Multiplication and division	Decimals
Year 5	Key knowledge	<p>To know how to read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</p> <p>To understand the value of each digit in a number</p> <p>To know how to count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</p> <p>To know how to interpret negative numbers in context,</p> <p>To know how to count forwards and backwards with positive and negative whole numbers, including through zero</p> <p>To know how to round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</p> <p>To know Roman numerals to 1000 (M) and recognise years written in Roman numerals.</p>	<p>To know an effective written method to; (column)</p> <p>Multiply 4 digit by 1 digit</p> <p>Multiply 2 digit by 2 digit</p> <p>Multiply 3 digit by 2 digit</p> <p>Multiply 4 digit by 2 digit</p> <p>Long multiplication</p> <p>To know an effective written method to; (Bus stop)</p> <p>Divide 3 digit by 1 digit</p> <p>Divide 4 digit by 1 digit</p> <p>Divide with remainders</p> <p>To know how to solve reasoning and problem solving questions using multiplication or division.</p>	<p>To know how to add decimals within 1</p> <p>To know how to subtract decimals within 1</p> <p>To know compliments to 1</p> <p>To know how to Add/subtract decimals to the same dp.</p> <p>To know how to problem solve with adding/subtracting decimals</p> <p>To know how to add/subtract decimals with a different number of dp.</p> <p>To know how to add/subtract integers and decimals</p> <p>To know decimal sequences</p> <p>To know how to multiply decimals by 10, 100 and 1000.</p>
	Key skills	<p>To be able to;</p> <p>Use 1000s 100s 10s and 1s</p> <p>Numbers to 10,000</p> <p>Round to the nearest 10</p> <p>Round to nearest 100</p> <p>Round to the nearest 1,000</p> <p>Numbers to 100,000</p> <p>Compare and order numbers to 100,000</p> <p>Numbers to a million</p>	<p>To be able to;</p> <p>Multiply 2 digits by 1 digit</p> <p>Multiply 3 digits by 1 digit</p> <p>Multiply 4 digits by 1 digit</p> <p>Multiply 2 digits (area model)</p> <p>Multiply 2 digits by 2 digits</p> <p>Multiply 3 digits by 2 digits</p> <p>Multiply 4 digits by 2 digits</p> <p>Divide 2 digits by 1 digit</p> <p>Divide 3 digits by 1 digit</p>	<p>To be able to;</p> <p>add decimals within 1</p> <p>Subtract decimals within 1</p> <p>Add decimals – crossing the whole</p> <p>Add decimals with the same number of decimal places</p> <p>Subtract decimals with a different number of decimal places</p>



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	Counting in 10s 100s 1000s 10000s Compare and order numbers to one million Round numbers to one million Roman numerals to 1,000	Divide 4 digits by 1 digit Divide with remainders	Subtract decimals with a different number of decimal places Add/ subtract wholes and decimals Decimal sequences Multiplying decimals by 10 100 and 1000 Dividing decimals by 10 100 and 1000
Key vocabulary	Ones, tens, hundreds, digit, 1-3 digit numbers, place value, stands for, represents, exchange, the same number as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, greatest, one more, ten more, one hundred more, one thousand more, one less, ten less, one thousand less, equal to, compare, order, size, first, second third etc, last but one, last. Before, after, next, between, half way between, above, below, estimation, guess, how many, estimate, nearly, roughly, close to, approximately, about the same as, just over, just under, exact, too many, too few, enough, not enough, round, nearest, round t the nearest 10, 100, 1000, 10,000,	Multiply, by, multiply, factor, groups of, times, product, once, twice etc, repeated addition, division, dividing, divide, divided by, divided into, left, left over, remainder, grouping, sharing share, equally, one each, two each etc, group I pairs, two's threes etc. Equal groups of, doubling, halving, array, row, column, number patterns, multiplication table, multiplication fact, division fact.	Decimal, decimal place, tenth, hundredth, thousandth, decimal point, place value, digit, fraction, per cent (%), percentage
Theme	Addition and Subtraction'	Fractions	Properties of shape
Key knowledge	To know how to add and subtract whole numbers with more than 4 digits To know how to add and subtract numbers mentally with increasingly large numbers To know how to use rounding to check answers to calculations To know how to solve addition and subtraction multi-step problems in contexts.	To know how to compare and order fractions whose denominators are all multiples of the same number To know and write equivalent fractions of a given fraction To know mixed numbers and improper fractions To know how to convert from mixed numbers to improper fractions (and vice versa)	To know how to identify 3-D shapes, including cubes and other cuboids, from 2-D representations. To know how to recognise lines of symmetry in 2d shapes in different orientations. To know angles are measured in degrees. To know how to estimate and compare acute, obtuse and reflex angles



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			<p>To know how to add and subtract fractions with the same denominator</p> <p>To know how to add and subtract fractions with denominators that are multiples of the same number</p> <p>To know how to multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</p>	<p>To know how to draw given angles, and measure them in degrees (o)</p> <p>To know that angles at a point and one whole turn (total 360degrees)</p> <p>To know that angles at a point on a straight line total 180degrees</p> <p>To know the properties of rectangles to deduce related facts and find missing lengths and angles</p> <p>To know how to distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p>
Key skills	<p>To be able to:</p> <p>Add two 4-digit numbers – one exchange</p> <p>Add two 4-digit numbers – more than one exchange</p> <p>Add whole numbers with more than 4 digits</p> <p>Subtract two 4-digit numbers – one exchange</p> <p>Subtract two 4-digit numbers- more than one exchange</p> <p>Subtract whole numbers with more than 4 digits</p> <p>Inverse operations</p> <p>Round to estimate and approximate</p> <p>Multi step addition and subtraction problems</p>	<p>To be able to:</p> <p>What is a fraction</p> <p>Equivalent fractions</p> <p>Fractions greater than 1</p> <p>Improper fractions to mixed numbers</p> <p>Mixed numbers to improper fractions</p> <p>Number sequences</p> <p>Compare and order fractions less than 1</p> <p>Compare and order fractions greater than 1</p> <p>Add and subtract fractions</p> <p>Add fractions within 1</p> <p>Add 3 of more fractions</p> <p>Add fractions</p>	<p>To be able to:</p> <p>Identify angles</p> <p>Compare angles</p> <p>Measure with a protractor</p> <p>Drawing lines and angles accurately</p> <p>Calculating angles on a straight line</p> <p>Calculating angles around a point</p> <p>Triangles</p> <p>Quadrilaterals</p> <p>Calculating length and angles</p> <p>Regular and irregular polygons</p> <p>Reasoning about 3d shapes</p>	
Key vocabulary	<p>Addition, add, more, and, make, sum, total, altogether, double, near double, half, halve, one more, two more, etc.</p> <p>Subtract, take away, how many are left, left over, one less, two less... one hundred less, how many fewer, how much less,</p>	<p>Fraction, proper, improper fraction, equivalent fraction, mixed number, numerator, denominator, equivalent, reduced to, cancel, equal part, equal grouping, equal sharing, parts of a whole, half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts,</p>	<p>Shape, pattern, flat, line, curved, straight, round, hollow, solid, sort, make, build, construct, draw, sketch, perimeter, centre, radius, diameter, surface, angle, right-angled, congruent, base, square based, size, bigger, larger, smaller, symmetry, symmetrical,</p>	



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		<p>difference between, equals, is the same as, number bonds, pairs, facts, missing number, tens boundary, hundreds boundary, ones boundary, tenths boundary, inverse.</p>	<p>one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths, hundredths, thousandths, decimal, fraction, decimal point, decimal place, decimal equivalent, proportion.</p>	<p>symmetrical pattern, line symmetry, reflect, reflection, axis of symmetry, reflective symmetry, pattern, repeated pattern, match, regular, irregular, 2-D, two-dimensional, corner, side, point, pointed, rectangle, rectangular, oblong, rectilinear, circle, triangle, equilateral triangle, isosceles triangle, scalene triangle, pentagon, pentagonal, hexagon, hexagonal, heptagon, octagon, octagonal, quadrilateral, parallelogram, rhombus, trapezium, polygon, right-angled, parallel, perpendicular, x-axis, y-axis, quadrant, 3-D, face, edge, vertex, vertices, cube, cuboid, pyramid, sphere, hemisphere, spherical, cone, cylinder, cylindrical, prism, triangular prism, tetrahedron, polyhedron, octahedron.</p>
Theme	Multiplication and Division'	Decimals and percentages	Position and direction	
Key knowledge	<p>To know multiples and factors of numbers up to 100 To know common factors of two numbers To solve investigations into factors EG <i>Abundant numbers or Non abundant numbers – is there any pattern?</i> To know and use the vocabulary of prime numbers To know prime factors and composite (nonprime) numbers To know whether a number up to 100 is prime and recall prime numbers up to 19 To know how to investigate: Prime numbers, Square numbers, Cube numbers. Multiply by 10,100,1000</p>	<p>To know decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] To understand and use thousandths and relate them to tenths, hundredths and decimal equivalents To know how to round decimals with two decimal places to the nearest whole number To know how to round to one decimal place To know how to read, write, order and compare numbers with up to three decimal places To know how to solve problems involving number up to three decimal places To understand the per cent symbol (%) and To know how to write percentages as a fraction with denominator 100</p>	<p>To understand what happens to a shape following reflection To know that a shape does not change when it is reflected To know how to reflect a shape following instruction (in the first quadrant) To know that a shape does not change when it is translated (co-ordinates) To know how to reflect and translate shapes using coordinates (in the first quadrant then 4 quadrants)</p>	



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		Divide by 10,100,1000	To know decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$ and those fractions with a denominator of a multiple of 10 or 25	
	Key skills	To be able to use; Multiples Factors Common factors Prime numbers Square numbers Cube numbers Multiply by 10, 100, and 1,000 Divide by 10, 100, and 1,000 Multiples of 10,100 and 1000	To be able to use; Decimals up to 2 d.p Decimals as fractions Understand thousandths Thousandths as decimals Rounding decimals Order and compare decimals Understand percentages Percentages as fractions and decimals Equivalent f.d.p	To be able to; Describe position Draw on a grid Position in the first quadrant Translation Translation with coordinates Lines of symmetry Complete a symmetric figure Reflection Reflection with coordinates
	Key vocabulary	Multiplication, multiply, multiplied by, multiple, factor, groups of, times, product, once, twice, three times etc., repeated addition, division, dividing, divided by, divided into, left, leftover, remainder, grouping, sharing, share equally, one each, two each, etc., group in pairs, threes etc., equal groups of, doubling, halving, array, row, column, number patterns, multiplication table, multiplication fact, division fact, inverse, square, squared, cubed.	Decimal, decimal place, tenth, hundredth, thousandth, decimal point, place value, digit, fraction, per cent (%), percentage	Position, over, under, underneath, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, beside, next to, opposite, apart, between, middle, edge, centre, corner, direction, journey, route, left, right, up, down, higher, lower, forwards, backwards, sideways, across, next to, close, near, far, along, through, to, from, towards, away from, clockwise, anticlockwise, compass point, north, south, east, west, N, S, E,W, north-east, north-west, south-east, south-west, NE, NW, SE, SW, horizontal, vertical, diagonal, translate, translation, coordinate, movement, slide, roll, turn, stretch, bend, whole turn, half turn, quarter turn, three-quarter turn, rotate, rotation, angle, is greater/smaller angle than, degree, right angle, acute angle, obtuse angle, reflection, straight line, ruler, set square, angle measurer, compass, protractor.



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	Theme	Area & perimeter	Volume	Converting units
	Key knowledge	<p>To know how to measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</p> <p>To know how to calculate and compare the area of rectangles (including squares)</p> <p>To know how to estimate the area of irregular shapes</p> <p>To know how to solve problems involving area and perimeter</p>	<p>To know that volume is a measurement of the space occupied by the boundaries of a 3D shape</p> <p>To know how to estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)]</p> <p>To know how to estimate capacity [for example, using water]</p> <p>To know how to compare volume using comparative language and/or symbols</p>	<p>To know how to convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</p> <p>To understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>
	Key skills	<p>To be able to:</p> <p>Measure perimeter</p> <p>Perimeter on a grid</p> <p>Perimeter of rectangles</p> <p>Perimeter of rectilinear shapes</p> <p>Calculate perimeter</p> <p>Counting squares</p> <p>Area of rectangles</p> <p>Area of compound shapes</p> <p>Area of irregular shapes</p>		<p>To be able to use:</p> <p>Kilometres and kilograms</p> <p>Millimetres and millilitres</p> <p>Metric units</p> <p>Imperial units</p> <p>Converting units of time</p> <p>Timetables</p>
	Key vocabulary	<p>The space occupied by a flat shape. The area is the number of units that the shape has covered. Units are squared. E.g. m², cm², mm², etc.</p>		<p>Convert, metric unit, imperial unit, kilo, kilogram, gram, millimetre, centimetre, metre, kilometre, litre, millilitre, pound (lb) ounce (oz) inch (in) foot (ft) yard (yd) pint gallon stone (st) approximately</p>
	Theme	Statistics		
	Key knowledge	<p>To understand how to interpret line graphs.</p> <p>Use their knowledge of scale and coordinates to represent data in a line graph.</p>		



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		<p>To know how to draw line graphs with axes with different scales.</p> <p>To know how to solve problems involving line graphs.</p> <p>To know how to solve comparison, sum and difference problems using information presented in a line graph</p> <p>To understand how to complete, read and interpret information in tables, including timetables.</p> <p>To know how to use information in tables to create a line graph.</p> <p>To recognise and interpret pie charts</p>		
	Key vocabulary	<p>Count, tally, sort, vote, survey, questionnaire, data, database, graph, block graph, pictogram, represent, group, set, list, table, chart, bar chart, frequency table, bar line chart, carroll diagram, venn diagram, line graph, label, title, axis, axes, diagram, most popular, most common, least popular, least common, maximum / minimum value, outcome.</p>		



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Year 6

	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	week 11	week 12
Mental Arithmetic weekly, covering all four operations and FDP throughout the year												
Autumn	Place Value	Addition, subtraction, multiplication and division	Fractions	Decimals	Percentages	FDP How they link together	Shape	Perimeter, area and volume	Position and direction	Statistics	Consolidation	
Spring	Algebra		Ratio Proportion and Scale factors		Converting units		Assessments and consolidation			Assessments		
Summer	Consolidation		Testing		Ks3 ready learning Formula/data – computing link Drawing 3D shape Ruler and Drawing Skills			Algebra Collecting data Pi				



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Year 6	Theme	Place value (2weeks)	Fractions (2weeks)	Statistics (2weeks)
	Key knowledge	<p>To know how to read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</p> <p>To know how to round any whole number to a required degree of accuracy</p> <p>To know how to use negative numbers in context</p> <p>To know how to calculate intervals across zero</p> <p>To know how to solve number and practical problems that involve all of the above</p>	<p>To use understanding of highest common factor to simplify fractions.</p> <p>To know how to count forwards and backwards in fractions.</p> <p>To know how to compare and order fractions with the same denominator that are multiples of the same number.</p> <p>To know how to compare fractions where the denominators are not multiples of the same number.</p> <p>To know how to add and subtract fractions where the denominators are multiples of the same number and where they are not multiples of the same number.</p> <p>To know how to add and subtract mixed numbers.</p> <p>To know how to solve problems that involve adding and subtracting fractions and mixed numbers.</p> <p>To know how to multiply fractions and mixed numbers by integers.</p> <p>To know how to divide fractions by integers.</p> <p>To know how to use all four operations when calculating with fractions.</p> <p>To know how to calculate fractions of an amount.</p> <p>To know how to find the whole amount from the known value of a fraction.</p>	<p>To understand how to interpret and construct pie charts</p> <p>To understand how to interpret and construct line graphs</p> <p>To know how to use line graphs and pie charts to solve problems</p> <p>To know how to calculate and interpret the mean as an average</p>
	Key skills	To be able to use: Numbers to 10,000	To be able to: Find equivalent fractions	To be able to: Read and interpret line graphs Draw line graphs



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	<p>Numbers to 100,000 Numbers to a million Numbers to ten million To be able to; Compare and order any number Round numbers to 10,100 and 1,000 Round any number Use negative numbers</p>	<p>Simplify fractions Convert improper fractions to mixed numbers Convert mixed numbers to improper fractions Plot fractions on a number line Compare and order (denominator and numerators) Add and subtract fractions Add mixed numbers Subtract mixed numbers Subtract fractions</p>	<p>Use line graphs to solve problems Analyse circles Read and interpret pie charts Read, interpret and create pie charts with percentages Calculate the mean</p>
Key vocabulary	<p>Ones, tens, hundreds, digit, one, two, three, four-digit number place value, stands for, represents, exchange, the same number as, as many as, more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, one more, ten more, hundred more, thousand more and less, equal to, compare, Order, size, first, second etc. last, last but one, before, after, next, between, halfway between, below, estimate guess, nearly, roughly, close to, approximate, about the same as, just over, just under, exactly, too many, too few, enough, not enough, round up, round down to nearest 10, 100, 1000.</p>	<p>Fraction, improper fraction, proper fraction, equivalent fraction, mixed number, numerator, denominator, equivalent, reduced to, cancel, equal part, equal grouping, equal sharing, parts of a whole, half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths, hundredths, thousandths, decimal, decimal fraction, decimal, decimal fraction, decimal point, decimal place, decimal equivalent, ratio, percent, simplify.</p>	<p>Count, tally, sort, vote, survey, questionnaire, data, database, graph, block graph, pictogram, represent, group, set, list, table, chart, bar chart, frequency table, bar line chart, Carroll diagram, Venn diagram, line graph, pie chart, label, title, axis, axes, diagram, most popular, most common, least popular, least common, maximum / minimum value, outcome. Mean, mode, median, statistics, distribution.</p>
Theme	<p>Addition, subtraction and Multiplication and Division (4weeks)</p>	<p>Decimals (2weeks)</p>	<p>Consolidation of learning and review learning (2weeks)</p>
Key knowledge	<p>To know how to multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</p> <p>To know how to divide numbers up to 4 digits by a two-digit whole number using</p>	<p>To know how to convert fraction to decimal To know the link between fractions and decimals To know how to order and compare decimals To know the value of each digit in numbers given to three decimal places</p>	



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		<p>the formal written method of long division, To know how to interpret remainders as whole number remainders, fractions, or by rounding, To know how to divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context To know how to perform mental calculations, including with mixed operations and large numbers To know how to identify common factors, common multiples and prime numbers To know how to solve addition and subtraction multi-step problems, deciding which operations and methods to use and why To understand the relationship between squared and cubed numbers and solve problems involving them. To understand how the order of an operation can affect the answer. To know how to efficient mental calculations and estimations. Use known facts from one calculation to determine the answer of another.</p>	<p>To know how to multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places To know how to multiply one-digit numbers with up to two decimal places by whole numbers To know a written division method in cases where the answer has up to two decimal places To know how to solve problems which require answers to be rounded to specified degrees of accuracy To know how to add and subtract decimals. To know, recall and use equivalences between simple fractions, decimals and percentages,</p>	
	Key skills	<p>To be able to: Add whole numbers with more than 4 digits Subtract whole numbers with more than 4 digits</p>	<p>Decimals up to 2 decimal places Understand thousandths Three decimal places Multiply by 10,100 and 1000 Divide by 10,100 and 1000</p>	



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		<p>Solve inverse operations Use inverse to check Add subtract integers Multiply 4 digits by 1 digit Multiply 2 digits (area model_ Multiply 2 digits by 2 digits Multiply 3 digits by 2 digits Multiply 3 digits by 2 digits Multiply up to a 4-digit number by 2 digits Divide 4 digits by 1 digit Divide with remainders Use a written method for short division Division using factors</p>	<p>Multiply decimals by integers Divide decimals by integers Division to solve problems Decimals as fractions Fractions to decimals</p>	
	<p>Key vocabulary</p>	<p>Addition, add, more, and, make, sum, total, altogether, double, near double, half, halve, one more, two more, etc. Subtract, take away, how many are left, left over, one less, two less... one hundred less, how many fewer, how much less, difference between, equals, is the same as, number bonds, pairs, facts, missing number, tens boundary, hundreds boundary, ones boundary, tenths boundary, inverse. Multiplication, multiply, multiplied by, multiple, factor, groups of, times, product, once, twice, three times etc., repeated addition, division, dividing, divided by, divided into, left, leftover, remainder, grouping, sharing, share equally, one each, two each, etc., group in pairs, threes etc., equal groups of, doubling, halving, array, row, column, number patterns, multiplication table, multiplication fact,</p>	<p>decimal place, decimal fraction, recurring, decimal, equivalent fraction, tenth, sharing, partitioning, exchanging, rounding to 3 d.p hundredth, thousandth, equal to remainder, grouping Accuracy, division, factor, highest common factor, Increase, inverse, long multiplication, order, operation, product, reasonableness, decimal, decimal fraction, decimal place, decimal point, infinite, decimal number, recurring, recurring decimal number, rounding, round up, round down, terminating decimal number.</p>	



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	division fact, inverse, square, squared, cubed. Negative, positive.		
Theme	Converting units (2weeks)	Percentages (2weeks)	Reasoning and applying (2 weeks)
Key knowledge	To know how to convert between units of measure up to three decimal places To understand standard units of measure To know how to read and write standard units of measure. To know how to convert between standard units of measure.	To understand the value of each digit in numbers given to three decimal places To know how to multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places To know how to multiply one-digit numbers with up to two decimal places by whole numbers To know how to find percentages of numbers To know how to convert between FDP To know how to order FDP To know how to calculate the whole from a percent. To know how to solve worded problems involving percentages	Reasoning and problem solving problems for all 4 operations and FDP
Key skills	To be able to use; Metric measures Miles and kilometres Imperial measures To be able to: Convert metric measures Calculate with metric measures	To be able to: Understand percentages, whole Fractions to percentages, Equivalent fdp, add, subtract, Order fdp Percentage of an amount Percentages- missing values	
Key vocabulary	Approximately, axis, constant proportion, conversion, cylinder, decimal notation, dimension, division, estimate, formula, formulae, graphical representation,	Percent, percentages, Understand percentages, whole Fractions to percentages, reasoning and applying	



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	<p>imperial, imperial units, interval, measure, measurement, metric unit, negative, scale, scales, table, digital, analogue, Greenwich mean time, hour, About Centilitre, cubic centimetres, cm³, cubic metres, m³, cubic Kilometres, Km³ capacity, , pint, gallon, pint volume, gram, kilogram, pound, oz, tonne, feet, yard, inch, inches, mile, perimeter, compound units, kilometres per hour, miles per hour,</p>	<p>Equivalent fdp, add, subtract, Order fdp Percentage of an amount Percentages- missing values times by % divide by 100.</p>	
Theme	Property of shape (3weeks)	Algebra (2weeks)	Problem solving
Key knowledge	<p>To know how to draw 2-D shapes using given dimensions and angles To understand, describe and build simple 3-D shapes (including making nets) To know how to compare and classify geometric shapes based on their properties and sizes To know how to find unknown angles in any triangles, quadrilaterals, and regular polygons To know parts of circles, including radius, diameter and circumference To know that the diameter is twice the radius To know how to find missing angles</p>	<p>To know simple formulae To know how to generate and describe linear number sequences To know how to express missing number problems algebraically To know how to find pairs of numbers that satisfy an equation with two unknowns To know enumerate possibilities of combinations of two variables.</p>	All key knowledge
Key skills	<p>To be able to: Measure with a protractor Draw lines and angles accurately Introduce angles</p>	<p>To be able to: Find a rule-one step Find a rule- two step Forming expressions</p>	All skills mentioned so far.



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		Angles on a straight line Angles around a point Calculate angles Vertically opposite angles Angles in a triangle- special cases/missing angles Angles in quadrilaterals Angles in polygons Draw shapes accurately Draw nets of 3d shapes	Substitution Formulae Forming equations Solve simple one step equations Solve two step equations Find pairs of values Enumerate possibilities	
	Key vocabulary	2D, corner, side, point, pointed, circle, circumference, diameter, radius sector, segment, Hexagon, pentagon, polygon, quadrilateral, kite, rectangle, parallelogram, rhombus, square, Trapezium, equilateral triangle, isosceles triangle, right angled triangle, scalene triangle, apex, centre, intersecting, irregular, parallel, perpendicular, quadrant, regular, straight line, cube, cuboid, cylinder, dodecahedron, hemi-sphere, octahedron, polyhedron, prism, pyramid, sphere, tetrahedron, 3D apex, edges, faces, net, vertices, acute, degree, obtuse, protractor, reflex, right angle, revolution x-axis, y-axis, quadrant, open, closed, degree.	Factor, common factor, common multiple, prime composite, squared (2) cubed (3) order of operations, brackets, inverse operation, formulae, equation, variable, unknown.	All vocab from the themes.
	Theme	Position and Direction' (1week)	Perimeter area and volume (2weeks)	Ks3 objectives
	Key knowledge	To understand and plot coordinates in the first quadrant. To understand and plot coordinates in all four quadrants.	To know how to draw 2-D shapes using given dimensions and angles To understand, describe and build simple 3-D shapes, including making nets	- consolidate their numerical and mathematical capability from key stage 2 and extend their understanding of the number system and place



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	<p>Use knowledge of coordinates and positional language to translate shapes in all four quadrants. To know how to describe translations using directional language. To know how to reflect shape in all 4 quadrants.</p>	<p>To know how to compare and classify geometric shapes based on their properties and sizes To know how to find unknown angles To know and name parts of circles (including radius, diameter and circumference and know that the diameter is twice the radius)</p>	<p>value to include decimals, fractions, powers and roots - select and use appropriate calculation strategies to solve increasingly complex problems - use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships - substitute values in expressions, rearrange and simplify expressions, and solve equations move freely between different numerical, algebraic, graphical and diagrammatic representations [for example, equivalent fractions, fractions and decimals, and equations and graphs] - develop algebraic and graphical fluency, including understanding linear and simple quadratic functions - use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics</p>
Key skills	<p>To be able to Plot in all 4 quadrants To be able to translate shape To be able to reflect</p>	<p>To be able to: Calculate area Calculate perimeter Describe volume of 3D shape Analyse and compare based on volume Analyse and compare based on area Analyse and compare based on perimeter</p>	
Key vocabulary	<p>Position, over, under, underneath, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, beside, next to, opposite, apart, between, middle, edge, centre, corner, direction, journey, route, left, right, up, down, higher,</p>	<p>m², cm², mm², etc. area, covers, surface square centimetre, unit of measure, convert,</p>	



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	<p>lower, forwards, backwards, sideways, across, next to, close, near, far, along, through, to, from, towards, away from, clockwise, anticlockwise, compass point, north, south, east, west, N, S, E,W, north-east, north-west, south-east, south-west, NE, NW, SE, SW, horizontal, vertical, diagonal, translate, translation, coordinate, movement, slide, roll, turn, stretch, bend, whole turn, half turn, quarter turn, three-quarter turn, rotate, rotation, angle, is greater/smaller angle than, degree, right angle, acute angle, obtuse angle, reflex angle, reflection, straight line, ruler, set square, angle measurer, compass, protractor.</p>		
Theme		Ratio	(2weeks)
Key knowledge		<p>To know how to use a scale factor To know how to solve problems using ratio To know how to calculate using ratio To solve ratio and proportion problems</p>	
Key skills		<p>To be able to: solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison solve problems involving similar shapes where the scale factor is known or can be found</p>	



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			<p>solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p> <p>Understand ratio language</p> <p>Ratio and fractions</p> <p>Understand the ratio symbol</p> <p>Using scale factors</p> <p>Ratio and proportion problems</p>	
	Key vocabulary		<p>Relative size, scale factor, ratio as a:b, Ratio, one for each, sharing, fraction, percent, percentage, proportion, scale, unequal grouping, unequal sharing. Simplify.</p>	