

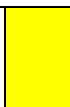
Mathematics - Medium Term Plan

	Autumn		Spring		Summer			
Term:	1	2	3	4	5	6		
Year 1	Learning objective		Success Criteria			Coverage		
Number and place value	<ul style="list-style-type: none"> to count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number 		<ul style="list-style-type: none"> I can count to and across 100 from 0 or 1 I can count back from 100 and from across 100 I can count on from any given number I can count back from a given number 					
	<ul style="list-style-type: none"> to count, read and write numbers to 100 in numerals, count in different multiples including ones, twos, fives and tens 		<ul style="list-style-type: none"> I can read numbers up to 100 in numerals I can write numbers up to 100 in numerals I can count to 100 in ones I can count to 100 in twos I can count to 100 in fives I can count to 100 in tens I can tell you if a number is odd or even 					
	<ul style="list-style-type: none"> to identify one more and one less from a given number 		<ul style="list-style-type: none"> I can give one more than a given number I can give one less than a given number 					
	<ul style="list-style-type: none"> to identify and represent numbers using concrete objects and pictorial representations including the number line and use the language of: equal to, more than, less than (fewer), most, least 		<ul style="list-style-type: none"> I can identify numbers using objects or pictures or on a number line I can use 'equal to' correctly I can use 'more than' correctly I can use 'less than (fewer)' correctly I can use 'most' correctly I can use 'least' correctly 					
	<ul style="list-style-type: none"> to read and write numbers from 1-20 in numerals and words 		<ul style="list-style-type: none"> I can read numbers up to 20 in words I can write numbers up to 20 in words 					
Addition and subtraction	<ul style="list-style-type: none"> to read, write and interpret mathematical statements involving addition (+), subtraction(-) and equals (=) signs 		<ul style="list-style-type: none"> I can read the + sign and know what it means I can write the + sign and know what it means I can read the - sign and know what it means I can write the - sign and know what it means I can read the = sign and know what it means I can write the = sign and know what it means 					
	<ul style="list-style-type: none"> to represent and use number bonds and related subtraction facts within 20 		<ul style="list-style-type: none"> I have memorised the number bonds to 10 I have memorised the number bonds to 20 I can write or draw or select materials to show the number bonds to 20 I can write or draw or select materials to show the subtraction facts to 20 					
	<ul style="list-style-type: none"> to add and subtract one-digit and two-digit numbers to 20 (9+9, 18-9), including zero 		<ul style="list-style-type: none"> I can add a one-digit to a two-digit numbers up to 20 I can subtract a one digit number from a two-digit number up to 20 I know what happens when I add 0 or take 0 away 					
	<ul style="list-style-type: none"> to solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ 		<ul style="list-style-type: none"> I can solve simple one-step problems using addition and subtraction I can find the missing number in problems 					
Multiplication and division	<ul style="list-style-type: none"> to solve simple one-step problems involving multiplication and division, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. 		<ul style="list-style-type: none"> I can share small quantities I can group small quantities I can find simple fractions of objects I can find simple fractions of numbers I can find simple fractions of quantities I can double numbers I can talk to you about arrays and numbers patterns and counting in twos I can talk to you about arrays and numbers patterns and counting in fives I can talk to you about arrays and numbers patterns and counting in tens 					

Fractions	<ul style="list-style-type: none"> to recognise , find and name a half as one of two equal parts of an object, shape or quantity to recognise, find and name a quarter as one of four equal parts of an object, shape or quantity 	<ul style="list-style-type: none"> I can find a half of an object I can find a half of a shape I can find a half of a quantity I can find a quarter of an object I can find a quarter of a shape I can find a quarter of a quantity I can make a whole by combining halves I can make a whole by combining quarters I can make a half by combining quarters 					
Measures	<ul style="list-style-type: none"> to compare, describe, and solve practical problems for: <ul style="list-style-type: none"> lengths and heights mass or weight capacity/volume time 	<ul style="list-style-type: none"> I can compare <ul style="list-style-type: none"> lengths and heights mass or weight capacity/volume time I can describe <ul style="list-style-type: none"> lengths and heights mass or weight capacity/volume time I can solve practical problems for <ul style="list-style-type: none"> lengths and heights mass or weight capacity/volume time I can tell the difference between standard and non-standard units I can tell the difference between standard and non-standard units 					
	<ul style="list-style-type: none"> to measure and begin to record the following: <ul style="list-style-type: none"> lengths and heights mass or weight capacity/volume time 	<ul style="list-style-type: none"> I can measure <ul style="list-style-type: none"> lengths and heights mass or weight capacity/volume time I can record <ul style="list-style-type: none"> lengths and heights mass or weight capacity/volume time I can use a ruler and weighing scales 					
	<ul style="list-style-type: none"> to recognise and know the value of different denominations of coins and notes 	<ul style="list-style-type: none"> I can recognise different denominations of coins and notes I can tell you how much coins and notes are worth 					
	<ul style="list-style-type: none"> to sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening 	<ul style="list-style-type: none"> I can use the language of time correctly 					
	<ul style="list-style-type: none"> to recognise and use language relating to dates, including days of the week, weeks, months and years 	<ul style="list-style-type: none"> I can recognise the days of the week I can use the names of the days of the week correctly I can recognise the months of the year I can use the names of the months of the year correctly 					
	<ul style="list-style-type: none"> to tell the time to the hour and half past the hour and draw the hands on a clock face to show these times 	<ul style="list-style-type: none"> I can tell the time to the hour I can draw the hands on the clock face to the hour I can tell the time to half past the hour I can draw the hands on the clock face to the half hour 					
Geometry: properties of shapes	<ul style="list-style-type: none"> to recognise and name common 2-D and 3-D shapes, e.g.: <ul style="list-style-type: none"> rectangles (including squares), circles and triangles cuboids (including cubes), pyramids and spheres 	<ul style="list-style-type: none"> I can recognise a 2-D shape I can recognise a 3-D object I can name a 2-D shape I can name a 3-D object 					
Geometry: Position,	<ul style="list-style-type: none"> to describe position, directions and movements , including half, quarter and three-quarter turns 	<ul style="list-style-type: none"> I can describe the position of things or people I can describe the direction something/one is moving in 					

direction

- I can make half turns in a clockwise direction
- I can make quarter turns in a clockwise direction
- I can make three-quarter turns in a clockwise direction



Mathematics - Medium Term Plan

	Autumn		Spring		Summer			
Term:	1	2	3	4	5	6		
Year 2	Learning objective		Success Criteria			Coverage		
Number and place value	<ul style="list-style-type: none"> to count in steps of 2, 3, and 5 from 0, and count in tens from any number forward or backward 		<ul style="list-style-type: none"> I can count in steps of 2 from any number from 0 to at least 100 and backwards I can count in steps of 3 from any number from 0 to at least 100 and backwards I can count in steps of 5 from any number from 0 to at least 100 and backwards I can count in steps of 10 from any number from 0 to at least 100 and backwards I can count in steps of 2 from any number from 0 to beyond 100 and backwards I can count in steps of 3 from any number from 0 to beyond 100 and backwards I can count in steps of 5 from any number from 0 to beyond 100 and backwards I can count in steps of 10 from any number from 0 to beyond 100 and backwards I can count in steps of 3 to help me find a third 					
	<ul style="list-style-type: none"> to recognise the place value of each digit in a two-digit number (tens and ones) 		<ul style="list-style-type: none"> I can recognise and tell you the value of each digit in a two-digit number I know when 0 is being used as a placeholder 					
	<ul style="list-style-type: none"> to identify, represent and estimate numbers using different representations including the number line 		<ul style="list-style-type: none"> I can identify numbers represented in different ways I can represent numbers in different ways I can estimate amounts 					
	<ul style="list-style-type: none"> to compare and order numbers from 0 to 100; use <, > and = signs 		<ul style="list-style-type: none"> I can compare numbers 0 to 100 using < sign I can compare numbers 0 to 100 using > sign I can use = sign to show equality I can order numbers 0 – 100 					
	<ul style="list-style-type: none"> to read and write numbers to at least 100 in numerals and in words 		<ul style="list-style-type: none"> I can read numbers to at least 100 written in numerals I can read numbers to at least 100 written in words I can write numbers to at least 100 written in numerals I can write numbers to at least 100 written in words 					
	<ul style="list-style-type: none"> to use place value and number facts to solve problems 		<ul style="list-style-type: none"> I can partition two digit numbers in different ways (e.g. 23=20+3, 23= 10+13) I can use my knowledge of numbers to reason with, discuss and solve problems 					
Addition and subtraction	<ul style="list-style-type: none"> to solve problems with addition and subtraction <ul style="list-style-type: none"> -using concrete objects and pictorial representations, including those involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods 		<ul style="list-style-type: none"> I can solve simple one-step problems with addition I can solve simple one-step problems with subtraction I understand that to 'sum' is to add I understand that to 'find the difference' is to subtract 					
	<ul style="list-style-type: none"> to recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 		<ul style="list-style-type: none"> I can recall all the addition facts to 20 I can recall all the subtraction facts to 20 I can use all the addition facts to 20 to solve problems I can use all the subtraction facts to 20 to solve problems I can use all the addition facts to 20 to help me find addition facts to 100 I can use all the subtraction facts to 20 to help me find subtraction facts to 100 					
	<ul style="list-style-type: none"> to add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> - a two-digit number and ones - a two-digit number and tens - two two-digit numbers - adding three one digit numbers 		<ul style="list-style-type: none"> I can record using columns when adding I can record using columns when subtracting I can use objects to help me add I can use objects to help me subtract I can use pictures to help me add I can use pictures to help me subtract I can use mental strategies to help me add I can use mental strategies to help me subtract 					
	<ul style="list-style-type: none"> to show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot 		<ul style="list-style-type: none"> I know that I can add numbers in any order I know that when I subtract I take the smaller number from the larger number 					
	<ul style="list-style-type: none"> to recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number 		<ul style="list-style-type: none"> I can use the inverse to check whether my answer is correct I can find the missing numbers using the inverse in number sentences: 					

	problems	<ul style="list-style-type: none"> - ♠ + 6 = 10 10 - 6 = 4 - 6 + ♠ = 10 10 - 6 = 4 so ♠ = 4 					
Multiplication and division	<ul style="list-style-type: none"> • to recall and use multiplication and division facts for the 2, 5, and 10 multiplication tables, including recognising odd and even numbers 	<ul style="list-style-type: none"> • I can recall all the multiplication facts to 12 x 2 • I can recall all the division facts to 24 ÷ 2 • I can recall all the multiplication facts to 12 x 5 • I can recall all the division facts to 60 ÷ 5 • I can recall all the multiplication facts to 12 x 10 • I can recall all the division facts to 120 ÷ 10 • I can recognise an even number • I can recognise an odd number 					
	<ul style="list-style-type: none"> • to calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and the equals (=) sign 	<ul style="list-style-type: none"> • I can use the 'x', ÷ and = signs when I record my calculation 					
	<ul style="list-style-type: none"> • to show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. 	<ul style="list-style-type: none"> • I know that I can multiply two numbers in any order • I know that I must divide the bigger number by the smaller number 					
	<ul style="list-style-type: none"> • to solve problems including multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts 	<ul style="list-style-type: none"> • I can divide by sharing • I can divide by equal grouping • I can find fractions of: <ul style="list-style-type: none"> - objects - numbers - quantities • I understand the connection between the 10 multiplication table and place value • I can solve problems involving multiplication and division using: <ul style="list-style-type: none"> - materials - arrays - repeated addition - mental strategies - multiplication facts - division facts 					
Fractions	<ul style="list-style-type: none"> • to recognise, find, name and write fractions $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity 	<ul style="list-style-type: none"> • I can recognise fractions $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity • I can find fractions $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity • I can name fractions $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity • I can write fractions $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity 					
	<ul style="list-style-type: none"> • to write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of two quarters and one half 	<ul style="list-style-type: none"> • I can write simple number sentences involving fractions • I know that two quarters are the same as one half (• I know that fractions are equal parts • I can count in fractions on a number line • I know that fractions can add up to more than one. 					
Measures	<ul style="list-style-type: none"> • to choose and use appropriate standard units to estimate and measure: <ul style="list-style-type: none"> - length/height in any direction (m/cm); - mass (kg/g); - temperature (°C); - capacity (litres/ml) to the nearest appropriate unit, using: <ul style="list-style-type: none"> - rulers, - scales, - thermometers - measuring vessels 	<ul style="list-style-type: none"> • I can choose an appropriate unit to measure • I can choose an appropriate unit to use to estimate • I can measure in metres • I can measure in centimetres • I can estimate in metres • I can estimate in centimetres • I can use a ruler, tape or measuring stick to measure to the nearest metre • I can use a ruler, tape or measuring stick to measure to the nearest centimetre • I can weigh in kilograms • I can weigh in grams • I can estimate how heavy something is in kilograms • I can estimate how heavy something is weigh in grams • I can read scales to the nearest kilogram/gram • I can measure how hot or cold something is in degrees Celsius (°C) using a thermometer • I can estimate how hot or cold something is • I can read a thermometer to tell how hot/cold it is • I can measure how much liquid I have in litres • I can measure how much liquid I have in millilitres • I can estimate how much liquid I have in litres • I can estimate how much liquid I have in millilitres 					

	<ul style="list-style-type: none"> to compare and order lengths, mass, volume/capacity and record the results using >, < and = 	<ul style="list-style-type: none"> I can compare two or more objects of different lengths I can compare two or more objects of different weights I can compare two or more volumes of liquid I can record the results using >, < and = 						
	<ul style="list-style-type: none"> to recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value 	<ul style="list-style-type: none"> I can recognise symbols for pounds (£) and pence (p) I can combine coins to make a given value 						
	<ul style="list-style-type: none"> to find different combinations of coins that equal the same value 	<ul style="list-style-type: none"> I can find different ways of making a given amount of money 						
	<ul style="list-style-type: none"> to solve simple problems in a practical context involving addition and subtraction of money 	<ul style="list-style-type: none"> I can add amounts of money I can take away amounts of money (give change) 						
	<ul style="list-style-type: none"> to compare and sequence intervals of time 	<ul style="list-style-type: none"> I can say which interval of time is shorter or longer than another I can sequence events that happen to me 						
	<ul style="list-style-type: none"> to tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. 	<ul style="list-style-type: none"> I can tell the time when it is a quarter past an hour I can tell the time when it is on the hour I can tell the time when it is half past and hour I can tell the time accurately to five minutes I can draw different times on a clock face given the time. 						
	<ul style="list-style-type: none"> to know the number of minutes in an hour and the number of hours in a day 	<ul style="list-style-type: none"> I know the number of minutes in an hour I know the number of hours in a day 						
Geometry: properties of shape	<ul style="list-style-type: none"> to identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line 	<ul style="list-style-type: none"> I can identify 2-D shapes I can describe 2-D shapes using their properties I can count the sides of a 2-D shape I can find the line of symmetry in 2-D shapes 						
	<ul style="list-style-type: none"> to identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces 	<ul style="list-style-type: none"> I can identify 3-D shapes I can describe 3-D shapes using their properties I can count the edges of a 3-D shape I can count the vertices of a 3-D shape I can count the faces of a 3-D shape 						
	<ul style="list-style-type: none"> to identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid 	<ul style="list-style-type: none"> I can identify the 2-D shapes on the faces of the 3-D shape 						
	<ul style="list-style-type: none"> to compare and sort common 2-D and 3-D shapes and everyday objects. 	<ul style="list-style-type: none"> I can compare common 2-D shapes to everyday objects I can compare common 3-D shapes to everyday objects 						
Geometry position, direction	<ul style="list-style-type: none"> to order and arrange combinations of mathematical objects in patterns 	<ul style="list-style-type: none"> I can order combinations of mathematical objects in patterns I can arrange combinations of mathematical objects in patterns 						
	<ul style="list-style-type: none"> to use mathematical vocabulary to describe position, direction and movement, including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise), and movement in a straight line. 	<ul style="list-style-type: none"> I can use mathematical vocabulary to describe position I can use mathematical vocabulary to describe direction I can use mathematical vocabulary to describe movement I understand that a rotation is a turn I know that a quarter turn is a right angle I know that a half turn is two right angles I know that a three quarter turn is three right angles I know the difference between clockwise and anti-clockwise 						
Statistics	<ul style="list-style-type: none"> to interpret and construct simple pictograms, tally charts, block diagrams and simple tables 	<ul style="list-style-type: none"> I can interpret simple pictograms, tally charts, block diagrams and simple tables I can construct simple pictograms, tally charts, block diagrams and simple tables 						
	<ul style="list-style-type: none"> to ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity 	<ul style="list-style-type: none"> I can count objects and sort them I can ask questions about simple pictograms, tally charts, block diagrams and simple tables I can answer questions about simple pictograms, tally charts, block diagrams and simple tables 						
	<ul style="list-style-type: none"> to ask and answer questions about totaling and compare categorical data. 	<ul style="list-style-type: none"> I can ask questions about all of the data I can ask questions about comparing categorical data I can answer questions about all of the data I can answer questions about comparing categorical data 						

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Term:	1	2	3	4	5	6		
Year 3	Learning objective		Success Criteria			Coverage		
Number and place value	<ul style="list-style-type: none"> to count from 0 in multiples of 4, 8, 50 and 100; finding 10 or 100 more or less than a given number 		<ul style="list-style-type: none"> I can count on and back in multiples of 4 from zero I can count on and back in multiples of 8 from zero I can count on and back in multiples of 50 from zero I can count on and back in multiples of 100 from zero I can find 10 more or 10 less than any given number I can find 100 more or 100 less than any given number 					
	<ul style="list-style-type: none"> to recognise the place value of each digit in a three-digit number (hundreds, tens, ones) 		<ul style="list-style-type: none"> I recognise the value of each digit in a 3digit number I can partition a 3 digit number I recognise that 0 is used as a place holder 					
	<ul style="list-style-type: none"> to compare and order numbers up to 1000 		<ul style="list-style-type: none"> I can say whether a number is bigger or smaller than another I can use the greater than and less than symbols I can order numbers to 1000 					
	<ul style="list-style-type: none"> to identify, represent and estimate numbers using different representations 		<ul style="list-style-type: none"> I can identify numbers represented in different ways I can represent numbers in different ways I can estimate amounts including measure 					
	<ul style="list-style-type: none"> to read and write numbers to at least 1000 in numerals and in words 		<ul style="list-style-type: none"> I can read numbers to at least 1000 written in numerals I can read numbers to at least 1000 written in words I can write numbers to at least 1000 written in numerals I can write numbers to at least 1000 written in words 					
	<ul style="list-style-type: none"> to solve number problems and practical problems involving these ideas. 		<ul style="list-style-type: none"> I can partition 3 digit numbers in different ways to solve one and two step number problems I can use a variety of representations to solve problems including measure I can use my knowledge of place value of numbers up to and beyond 1000 to help me solve problems I can use my knowledge of numbers to reason with, discuss and solve problems 					
Addition and subtraction	<ul style="list-style-type: none"> to add and subtract numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and ones a three-digit number and tens a three-digit number and hundreds 		<ul style="list-style-type: none"> I can add a single digit to a three digit number mentally I can subtract a single digit from a three digit number mentally I can add a tens number to a three digit number mentally I can subtract a tens number from a three digit number mentally I can add a hundreds number to a three digit number mentally I can subtract a hundreds number from a three digit number mentally I can estimate the answer to an addition calculation. I can estimate the answer to a subtraction calculation. I can estimate the answer to an addition and subtraction calculation. I can use an addition calculation as an inverse to check an answer. I can use a subtraction calculation as an inverse to check an answer. I can use an addition or subtraction calculation as an inverse to check an answer. 					
	<ul style="list-style-type: none"> to add and subtract numbers with up to three digits, using the formal written methods of columnar addition and subtraction 		<ul style="list-style-type: none"> I can add a two digit number to a three digit number using written column method I can add a three digit number to a three digit number using written column method I can subtraction a two digit number to a three digit number using written column method I can subtraction a three digit number to a three digit number using written column method I can use a column method of addition without carrying I can use a column method of subtraction without exchanging I can use a column method of addition including carrying across the tens boundary I can use a column method of subtraction including exchanging from the tens I can use a column method of addition including carrying across the hundreds boundary I can use a column method of subtraction including exchanging from the hundreds 					
	<ul style="list-style-type: none"> to estimate the answer to a calculation and use inverse operations to check answers 		<ul style="list-style-type: none"> I can estimate the answer to an addition calculation. I can estimate the answer to a subtraction calculation. 					

		<ul style="list-style-type: none"> I can estimate the answer to an addition and subtraction calculation. I can use an addition calculation as an inverse to check an answer. I can use a subtraction calculation as an inverse to check an answer. I can use an addition or subtraction calculation as an inverse to check an answer. 					
	<ul style="list-style-type: none"> to solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. 	<ul style="list-style-type: none"> I can solve addition problems involving missing numbers using number facts. I can solve subtraction problems involving missing numbers using number facts. I can solve addition problems involving missing numbers using place value. I can solve subtraction problems involving missing numbers using place value. I can solve more complex addition problems. I can solve more complex subtraction problems. 					
Multiplication and division	<ul style="list-style-type: none"> to recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 	<ul style="list-style-type: none"> I can recall all the multiplication facts to 12×3 I can recall all of the division facts to $36 \div 3$ I can recall all of the multiplication facts to 12×4 I can recall all of the division facts to $48 \div 4$ I can recall all of the division facts to $96 \div 8$ I can connect the 2, 4 and 8 times tables through doubling I can recall all the multiplication facts to 12×3 I can recall all the division facts to $36 \div 3$ I can recall all the multiplication facts to 12×4 I can recall all the division facts to $48 \div 4$ I can recall all the multiplication facts to 12×8 I can recall all the division facts to $96 \div 8$ 					
	<ul style="list-style-type: none"> to write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods 	<ul style="list-style-type: none"> I can write a number sentence using \times and $=$ (2, 3, 4, 5, 8 and 10) I can write a number sentence using \div and $=$ (2, 3, 4, 5, 8 and 10) I can calculate the answer to a multiplication sentence (2, 3, 4, 5, 8 and 10) I can calculate the answer to a division sentence (2, 3, 4, 5, 8 and 10) I can mentally calculate 2 digit \times 1 digit statements using my tables facts I can use an informal written method to calculate 2 digit \times 1 digit statements (grid multiplication and chunking) I can use a formal written method to calculate 2 digit \times 1 digit statements (e.g. short multiplication and division) I can write a multiplication number sentence and work out the related multiplication and division sentences I can use mental then formal written methods when multiplying a one digit number by a two digit number. I can use mental then formal written methods when dividing a one digit number by a two digit number. 					
	<ul style="list-style-type: none"> to solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects 	<ul style="list-style-type: none"> I know whether to use multiplication or division to solve a problem I can solve problems involving multiplication I can solve problems involving division I can find the missing number in a multiplication problem I can find the missing number in a division problem I can find the nth multiple of a number I can work out intervals on a scale using my times table facts I can use my multiplication and related division facts to solve problems involving objects (e.g. 12 sweets shared between 4 friends, 4 cakes shared equally between 8 children) I can use my multiplication and related division facts to solve problems involving measures (e.g. 4 times as high, 8 times as long, etc) I can solve missing number problems, involving inverse operations I can solve word problems involving scaling of whole numbers. eg 4 times as high as a 4 m wall. I can solve correspondence problems in which n objects are connected to m objects. eg 12 cakes shared equally between 4 children. 					
Fractions	<ul style="list-style-type: none"> to count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 	<ul style="list-style-type: none"> I can recognise when an object/shape is divided into 10 equal parts and that each part/section is 1 tenth. I can count forwards/backwards in tenths, including crossing the boundary from decimals to integer mixed numbers. I understand the connection between the fraction and decimal representations of tenths. I understand that tenths are the result of 1 digit numbers or quantities divided by 10. I can apply my understanding of tenths to all contexts, e.g. number, measure etc. for example 2mm is equivalent to 2 tenths of a centimetre. 					
	<ul style="list-style-type: none"> to recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators 	<ul style="list-style-type: none"> I can correctly use the terms numerator and denominator. I can recognise, find and write a tenth of a given number (unit fraction). I can recognise, find and write fractions for several tenths of a given number (non-unit fraction). 					
	<ul style="list-style-type: none"> to recognise and use fractions as numbers: unit fractions and non-unit 	<ul style="list-style-type: none"> I can answer a problem expressing my answer as a fraction, e.g. If a man has 4 apples, 4 oranges, 4 pears and 4 					

	fractions with small denominators	bananas, what fraction/how much of the fruit are apples.					
	<ul style="list-style-type: none"> to recognise and show, using diagrams, equivalent fractions with small denominators 	<ul style="list-style-type: none"> I can show/recognise equivalence between fractions and decimals, e.g. $5/10 = \frac{1}{2} = 0.2$ 					
	<ul style="list-style-type: none"> to add and subtract fractions with the same denominator within one whole (e.g. $5/7 + 1/7 = 6/7$) 	<ul style="list-style-type: none"> I understand that the denominator represents the total numbers of the parts in 1 whole. I understand that the numerator shows how many parts of the whole are represented. I can add fractions with small, identical denominators, that total up to one whole. I can subtract fractions with small, identical denominators, that total up to one whole. 					
	<ul style="list-style-type: none"> to compare and order unit fractions with the same denominator 	<ul style="list-style-type: none"> I can compare and order fractions or decimals (tenths, quarters and eighths) I can order and place decimals, fractions and whole numbers on a number line. 					
	<ul style="list-style-type: none"> to solve problems that involve all of the above 	<ul style="list-style-type: none"> I can think of a strategy to solve problems 					
Measures	<ul style="list-style-type: none"> to measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) 	<ul style="list-style-type: none"> I can compare two or more lengths I can compare two or more masses I can compare two or more capacities I can measure in mm, cm, and m I can measure in g and kg I can measure in l and ml I can add two or more lengths I can add two or more masses I can add two or more capacities I can subtract two or more lengths I can subtract two or more masses I can subtract two or more capacities I can scale simple measures I know simple equivalents of length, mass and capacity 					
	<ul style="list-style-type: none"> to measure the perimeter of simple 2-D shapes 	<ul style="list-style-type: none"> I can measure the perimeter of a simple 2D shape I know how to find the perimeter 					
	<ul style="list-style-type: none"> to add and subtract amounts of money to give change, using both £ and p in practical contexts 	<ul style="list-style-type: none"> I can use the £ and p symbol I can add amounts of money, including mixed units I can subtract amounts of money to give change I can recognise the value of coins 					
	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> I can identify 1 minute intervals on a clock face. I can tell the time to the nearest minute using an analogue clock. I can recognise and read Roman Numerals (1 – 12). I can tell the time using a clock with Roman Numerals. I can say the time using a 12 hour clock. I can write the time using a 12 hour clock. I can say the time using a 24 hour clock. I can write the time using a 24 hour clock. 					
	<ul style="list-style-type: none"> to estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight 	<ul style="list-style-type: none"> I can read the time to the nearest minute. I can estimate time to the nearest minute. I can write the time in terms of; seconds, minutes, hours and o'clock. I can work out the difference and compare time e.g. seconds, minutes, hours and o'clock. I can use the vocabulary of time correctly (a.m. and p.m., morning, afternoon, noon and midnight) 					
	<ul style="list-style-type: none"> to know the number of seconds in a minute and the number of days in each month, year and leap year 	<ul style="list-style-type: none"> I know there are 60 seconds in a minute. I know the number of days in each month. I know the number of days in a year and a leap year. 					
	<ul style="list-style-type: none"> to compare durations of events, for example to calculate the time taken by particular events or tasks. 	<ul style="list-style-type: none"> I can compare the duration of events e.g. T.V listings, bus schedules and journey times 					
Geometry: properties of shapes	<ul style="list-style-type: none"> to draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them 	<ul style="list-style-type: none"> I can draw 2-D shapes I can describe the properties of 2D shapes using accurate language including lengths of lines and angles I can make 3D shapes using modelling materials I can recognise 3D shapes in different orientations I can describe the properties of 3D shapes using accurate language including lengths of lines and angles I can describe 3D shapes from different orientations I can identify whether polygons and polyhedra have lines of symmetry 					
	<ul style="list-style-type: none"> to recognise angles as a property of shape or a description of a turn 	<ul style="list-style-type: none"> I can recognise angles as a property of a shape 					

	<ul style="list-style-type: none"> to identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle 	<ul style="list-style-type: none"> I can recognise angles as a description of a turn I can identify right angles I can recognise that 2 right angles make a half turn I can recognise that 3 right angles make 3 quarters of a turn I can recognise that 4 right angles make a complete turn I can identify whether angles are greater than a right angle I can identify whether angles are less than a right angle 						
	<ul style="list-style-type: none"> to identify horizontal, vertical, perpendicular and parallel lines in relation to other lines. 	<ul style="list-style-type: none"> I can identify horizontal and vertical lines in relation to other lines I can identify parallel lines in relation to other lines I can identify perpendicular lines in relation to other lines 						
Statistics	<ul style="list-style-type: none"> to interpret and present data using bar charts, pictograms and tables 	<ul style="list-style-type: none"> I can measure straight lines to the nearest centimetre I can connect decimals and rounding when drawing straight lines 						
	<ul style="list-style-type: none"> to solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables. 	<ul style="list-style-type: none"> I can solve one step questions using information presented in a scaled bar chart. I can solve one step questions using information presented in a pictograms. I can solve one step questions using information presented in a table. I can solve two step questions using information presented in a scaled bar chart. I can solve two step questions using information presented in a pictograms. I can solve two step questions using information presented in a table. I can interpret data presented in many contexts. 						

Mathematics - Medium Term Plan

	Autumn		Spring		Summer			
Term:	1	2	3	4	5	6		
Year 4	Learning objective		Success Criteria			Coverage		
Number and place value	<ul style="list-style-type: none"> to count in multiples of 6, 7, 9, 25 and 1000 		<ul style="list-style-type: none"> I can count in multiples of 6, 7, 9, 25 and 1000 I know the related multiplication and division facts up to 12 x12 I know the inverse facts of these multiples. 					
	<ul style="list-style-type: none"> to find 1000 more or less than a given number 		<ul style="list-style-type: none"> I can find 1000 more than any number I can find 1000 less than any number 					
	<ul style="list-style-type: none"> to count backwards through zero to include negative numbers 		<ul style="list-style-type: none"> I can count backwards through zero into negative numbers 					
	<ul style="list-style-type: none"> to recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) 		<ul style="list-style-type: none"> I recognise the value of each digit in a 4 digit number I can partition a 4 digit number I understand that 0 is used as a place holder 					
	<ul style="list-style-type: none"> to order and compare numbers beyond 1000 		<ul style="list-style-type: none"> I can order and compare numbers in context e.g. temperature, measures and money 					
	<ul style="list-style-type: none"> to identify, represent and estimate numbers using different representations 		<ul style="list-style-type: none"> I can identify numbers represented in different ways I can represent numbers in different ways I can estimate amounts including measure I can extend knowledge of the number system to include decimal numbers and fractions I can estimate and round numbers to the use of measurement instruments 					
	<ul style="list-style-type: none"> to round any number to the nearest 10, 100 or 1000 		<ul style="list-style-type: none"> I can round numbers to 10, 100 or 1000 in context I can tell you what these numbers mean and the reason for rounding up or down to the nearest 10,100or 1000 I can apply rounding in helping me solve worded problems or mathematical investigations. 					
	<ul style="list-style-type: none"> to solve number and practical problems that involve all of the above and with increasingly large positive numbers 		<ul style="list-style-type: none"> I can use 4 digit numbers in different ways to solve one and two step number problems, through the use of column method. I can use a variety of representations to solve problems including fractions and measure. I can use my knowledge of place value of numbers beyond 1000 to help me solve problems I can use my knowledge of numbers, fractions and decimals to reason with, discuss and solve problems 					
Addition and subtraction	<ul style="list-style-type: none"> to add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate 		<ul style="list-style-type: none"> I can use columnar addition to add numbers with up to 4 digits (e.g. 2d + 3d, 3d + 3d, 3d+ 4d, 4d + 4d). I can use columnar subtraction to subtract numbers with up to 4 digits (e.g 3d-2d, 4d-3d). 					
	<ul style="list-style-type: none"> to estimate and use inverse operations to check answers to a calculation 		<ul style="list-style-type: none"> I can estimate answers to a calculation. I can use inverse operations to check answers to a calculation. 					
	<ul style="list-style-type: none"> to solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why 		<ul style="list-style-type: none"> I can identify the operation(s) to use when solving problems. I can solve two-step addition and subtraction problems within a context (extending to decimal units of measure). I can justify the methods I have used to solve a problem. 					
Multiplication and division	<ul style="list-style-type: none"> to recall multiplication and division facts for multiplication tables up to 12 x 12 		<ul style="list-style-type: none"> I can recall all the multiplication facts to 12 x 6 I can recall all of the division facts to 72 ÷ 6 I can recall all the multiplication facts to 12 x 7 I can recall all of the division facts to 84 ÷ 7 I can recall all the multiplication facts to 12 x 9 I can recall all of the division facts to 108 ÷ 9 I can recall all the multiplication facts to 12 x 12 I can recall all of the division facts to 144 ÷ 12 					
	<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> I can multiply any number by 0 I can divide any number by 0 I can multiply any number by 1 I can divide any number by 1 I can multiply three numbers (2x3x4) using brackets to help my calculations (e.g. (2x3) x 4) 					
	<ul style="list-style-type: none"> to recognise and use factor pairs and commutativity in mental calculations 		<ul style="list-style-type: none"> I can recognise factor pairs up to 144. 					

		<ul style="list-style-type: none"> I can use related multiplication and division facts to find factor pairs up to 144. I can write a multiplication number sentence and work out the related multiplication and division sentences 					
	<ul style="list-style-type: none"> to multiply two-digit and three-digit numbers by a one-digit number using formal written layout 	<ul style="list-style-type: none"> I can use an informal written method to calculate 2 digit x 1 digit statements (grid multiplication and chunking) I can use a formal written method to calculate 2 digit x 1 digit statements (e.g. short multiplication and division) I can use a formal written method to calculate 3 digit x 1 digit statements (e.g. short multiplication and division) 					
	<ul style="list-style-type: none"> to solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects 	<ul style="list-style-type: none"> I know whether to use multiplication or division to solve a problem I can solve problems involving multiplication I can solve problems involving division I can solve problems involving multiplication and addition. I can work out intervals on a scale using my times table facts I can use my multiplication and related division facts to solve problems involving objects with remainders (e.g. 3 cakes shared equally between 10 children) I can use repeated addition to solve 2 digit number x 1 digit number calculations I can mentally calculate 3 digit x 1 digit statements using my tables facts I can mentally calculate 3 digit x 1 digit statements and their related division facts. I can use multiplication to solve two-step problems I can use division to solve two-step problems. 					
Fractions (including decimals)	<ul style="list-style-type: none"> to recognize and show using diagrams , families of common equivalent fractions 	<ul style="list-style-type: none"> I can understand the relationship between denominators and their divisors. I can recognise equivalent fractions I can show equivalent fractions using diagrams or shapes I can find common equivalent fractions I can simplify fractions in order to calculate equivalences using factors and multiples. 					
	<ul style="list-style-type: none"> to count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten 	<ul style="list-style-type: none"> I can recognise when an object/shape is divided into 100 equal parts and that each part/section is 1 hundredth. I can count forwards/backwards in hundredths, including crossing the boundary from decimals to integer mixed numbers (for example using a number line) I understand the connection between the fraction and decimal representations of hundredths. I understand that hundredths are the result of a 1 digit number or quantities divided by 100 I understand that hundredths are the result of dividing tenths by ten. I can apply my understanding of hundredths to all contexts, e.g. number, measure etc. for example money. 					
	<ul style="list-style-type: none"> to solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number 	<ul style="list-style-type: none"> I can find fraction of a shape I can find a fraction of a quantity I can find a fraction which is several parts of a whole. 					
	<ul style="list-style-type: none"> to add and subtract fractions with the same denominator. 	<ul style="list-style-type: none"> I can add fractions with identical denominators that total and exceed one whole. I can subtract fractions with identical denominators that exceed one whole. 					
	<ul style="list-style-type: none"> to recognise and write decimal equivalents of any number of tenths or hundredths 	<ul style="list-style-type: none"> I can recognise the decimal equivalent of one tenth I can write the decimal equivalent of one tenth. I can recognise the decimal equivalent of one hundredth I can write the decimal equivalent of one hundred I can recognise the decimal equivalent of any given tenth I can write the decimal equivalent of any given tenth. I can recognise the decimal equivalent of any given hundredth. I can write the decimal equivalent of any given hundredth. 					
	<ul style="list-style-type: none"> to recognise and write decimal equivalents to 1/4; 1/2; 3/4 	<ul style="list-style-type: none"> I can recognise decimal equivalents to 1/4; 1/2; 3/4 I can write decimal equivalents to 1/4; 1/2; 3/4 					
	<ul style="list-style-type: none"> 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 units, tenths and hundredths 	<ul style="list-style-type: none"> I can recognise when a 1 or 2 digit number has been divided by 10 or 100. I can explain when a 1 or 2 digit number has been divided by 10 or 100. I can read and identify the value of the digits within an answer as units, tenths or hundredths. I can use language such as decimal point when describing differing values of a digit. 					
	<ul style="list-style-type: none"> to round decimals with one decimal place to the nearest whole number 	<ul style="list-style-type: none"> I can round a 1 placed decimal number to the nearest whole number. 					
	<ul style="list-style-type: none"> to compare numbers with the same number of decimal places up to two decimal places 	<ul style="list-style-type: none"> I can compare two numbers with 1 decimal place in terms of <> I can find the difference between two numbers with 1 decimal place. I can compare two numbers with 2 decimal places in terms of <> I can find the difference between two numbers with 2 decimal places. 					
	<ul style="list-style-type: none"> to solve simple measure and money problems involving fractions and decimals to two decimal places. 	<ul style="list-style-type: none"> I can solve simple measure and money problems involving fractions. I can solve simple measure and money problems involving two decimals. I can solve simple measure and money problems involving fractions and decimals. 					
Measures	<ul style="list-style-type: none"> to convert between different units of measure (e.g. kilometre to metre; 	<ul style="list-style-type: none"> I can convert measures 					

	hour to minute)						
	<ul style="list-style-type: none"> to measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres 	<ul style="list-style-type: none"> I can measure a perimeter of a rectilinear figure in centimetres I can measure a perimeter of a rectilinear figure in metres 					
	<ul style="list-style-type: none"> to find the area of rectilinear shapes by counting squares 	<ul style="list-style-type: none"> I can count the squares to find the area 					
	<ul style="list-style-type: none"> to estimate, compare and calculate different measures, including money in pounds and pence 	<ul style="list-style-type: none"> I can estimate different measures I can compare different measures I can calculate different measures 					
	<ul style="list-style-type: none"> to read, write and convert time between analogue and digital 12 and 24-hour clocks 	<ul style="list-style-type: none"> I can read the time on a 12 hour analogue clock. I can read the time on a 12 hour digital clock. I can read the time on a 24 hour digital clock. I can write the time on a 12 hour analogue clock. I can write the time on a 12 hour digital clock. I can write the time on a 24 hour digital clock. I can convert time between analogue and digital to 12 hours. I can convert time between analogue and digital to 24 hours. 					
	<ul style="list-style-type: none"> to solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. 	<ul style="list-style-type: none"> I can convert between hours and minutes in real life situations (eg. TV listings). I can convert between minutes and seconds in real life situations (eg. bus timetables). I can convert between years and months in real life situations (eg. calendars). I can convert between weeks and days in real life situations (eg. calendars). 					
Geometry: properties of shapes	<ul style="list-style-type: none"> to compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes 	<ul style="list-style-type: none"> I can compare and classify the properties and sizes of quadrilaterals for example: parallelogram, rhombus, trapezium I can compare and classify the properties and sizes triangles for example: isosceles, equilateral, scalene 					
	<ul style="list-style-type: none"> to identify acute and obtuse angles and compare and order angles up to two right angles by size 	<ul style="list-style-type: none"> I can identify acute angles I can identify obtuse angles I can compare and order angles up to 180 degrees I can identify a protractor I can compare lengths and angles to decide if a polygon is regular or irregular 					
	<ul style="list-style-type: none"> to identify lines of symmetry in 2-D shapes presented in different orientations 	<ul style="list-style-type: none"> I can identify lines of symmetry in 2D shapes in different orientations 					
	<ul style="list-style-type: none"> to complete a simple symmetric figure with respect to a specific line of symmetry. 	<ul style="list-style-type: none"> I can draw symmetrical patterns I can complete a simple symmetric figure with one line of symmetry I can recognise line symmetry in a variety of diagrams including where the line of symmetry does not dissect the original shape (NS) 					
Geometry: position, direction	<ul style="list-style-type: none"> to describe positions on a 2-D grid as coordinates in the first quadrant 	<ul style="list-style-type: none"> I can describe positions on a 2D grid as co-ordinates in the first quadrant I can draw a pair of axes in one quadrant with equal scales and integer labels I can use ICT tools to plot co-ordinates 					
	<ul style="list-style-type: none"> to describe movements between positions as translations of a given unit to the left/right and up/down 	<ul style="list-style-type: none"> I can translate a shape in one quadrant 					
	<ul style="list-style-type: none"> to plot specified points and draw sides to complete a given polygon. 	<ul style="list-style-type: none"> I can read, write and use pairs of co-ordinates I can plot specified points and draw sides to complete a given polygon 					
Statistics	<ul style="list-style-type: none"> to interpret and present discrete data using bar charts and continuous data using bar charts and time (line?) graphs 	<ul style="list-style-type: none"> I can interpret discrete data using bar charts with scales beyond 2, 5, 10. I can interpret continuous data using bar charts with scales beyond 2, 5, 10. I can interpret continuous data using time/line graphs with scales beyond 2, 5, 10. I can present discrete data using bar charts with scales beyond 2, 5, 10. I can present continuous data using bar charts with scales beyond 2, 5, 10. I can present continuous data using time/line graphs with scales beyond 2, 5, 10. I am starting to understand how continuous data within a graph shows changes over time. 					
	<ul style="list-style-type: none"> to solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. 	<ul style="list-style-type: none"> I can solve comparison problems using information presented in bar charts, pictograms and other graphs I can solve comparison problems using information presented in tables I can solve sum and difference problems using information presented in bar charts, pictograms and other graphs. I can solve sum and difference problems using information presented in tables 					

Mathematics - Medium Term Plan

	Autumn		Spring		Summer			
Term:	1	2	3	4	5	6		
Year 5	Learning objective		Success Criteria			Coverage		
Number and place value	<ul style="list-style-type: none"> to read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit 		<ul style="list-style-type: none"> I can read numbers to at least 1 000 000 I can determine the value of each digit for numbers to at least 1 000 000 I can write numbers to at least 1 000 000 I can order numbers to at least 1 000 000 I can compare (< >) numbers to at least 1 000 000 					
	<ul style="list-style-type: none"> to count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 		<ul style="list-style-type: none"> I can count forwards or backwards in steps of 10 for any given number up to 1 000 000 I can count forwards or backwards in steps of 100 for any given number up to 1 000 000 I can count forwards or backwards in steps of 1000 for any given number up to 1 000 000 					
	<ul style="list-style-type: none"> to interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero 		<ul style="list-style-type: none"> I can interpret negative numbers in context (including different number lines and scales) I can count forwards and backwards with positive and negative whole numbers through zero 					
	<ul style="list-style-type: none"> to round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 		<ul style="list-style-type: none"> I can round any number up to 1 000 000 to the nearest 10 I can round any number up to 1 000 000 to the nearest 100 I can round any number up to 1 000 000 to the nearest 1000 I can round any number up to 1 000 000 to the nearest 10 000 I can round any number up to 1 000 000 to the nearest 100 000 					
	<ul style="list-style-type: none"> to solve number problems and practical problems that involve all of the above 		<ul style="list-style-type: none"> I can solve number problems and practical problems that involve ordering numbers I can solve number problems and practical problems that involve counting/forwards backwards I can solve number problems and practical problems that involve negative numbers I can solve number problems and practical problems that involve rounding numbers 					
	<ul style="list-style-type: none"> to read Roman numerals to 1000 (M) and recognise years written in Roman numerals. 		<ul style="list-style-type: none"> I can recognise individual Roman numerals to 1000 (M) I can read Roman numerals to 1000 (M) ie CXXIV I can recognise years written in Roman numerals. 					
Addition and subtraction	<ul style="list-style-type: none"> to add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) 		<ul style="list-style-type: none"> I can add whole numbers with 4 digits using written column methods, including crossing the tens barrier. I can subtract whole numbers with 4 digits using written column methods, including crossing the tens barrier. I can add whole numbers with 5 digits using written column methods, including crossing the tens barrier. I can subtract whole numbers with 5 digits using written column methods, including crossing the tens barrier. 					
	<ul style="list-style-type: none"> to add and subtract numbers mentally with increasingly large numbers 		<ul style="list-style-type: none"> I can add numbers mentally with digits up to 5 places without crossing the tens barrier. I can subtract numbers mentally with digits up to 5 places without crossing the tens barrier. 					
	<ul style="list-style-type: none"> to use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy 		<ul style="list-style-type: none"> I can round numbers to the nearest 10, 100 and 1000. I can use rounding to help me to check answers to calculations that I complete. 					
	<ul style="list-style-type: none"> to solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. 		<ul style="list-style-type: none"> I can choose the correct operation when solving a multi-step problem. I can choose a suitable method when solving a multi-step problem. I can explain why I used a given method when solving a multi-step problem. I can solve addition and subtraction problems, using the correct operation. 					
Multiplication and division	<ul style="list-style-type: none"> to identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers 		<ul style="list-style-type: none"> I can identify multiples of calculations up to 12 x 12 I can identify all factor pairs of a given number I can identify common factors of two numbers 					
	<ul style="list-style-type: none"> to solve problems involving multiplication and division where larger numbers are used by decomposing them into their factors 		<ul style="list-style-type: none"> I can solve problems involving multiplication I can solve problems involving multiplication using factors and multiples I can solve problems involving multiplication using squares and cubes I can solve problems involving division I can solve problems involving division using factors and multiples I can solve problems involving division using squares and cubes I can decompose larger numbers into their factors 					
	<ul style="list-style-type: none"> to know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers 		<ul style="list-style-type: none"> I know what a prime number is I can use the term prime number correctly 					

		<ul style="list-style-type: none"> • I know what a prime factor is • I can use the term prime factor correctly • I know what a composite (non-prime) number is • I can use the term composite (non-prime) number correctly • I know what a square number is • I can use the term square number correctly • I know what a cube number is • I can use the term cube number correctly 					
	<ul style="list-style-type: none"> • to establish whether a number up to 100 is prime and recall prime numbers up to 19 	<ul style="list-style-type: none"> • I can find if a number up to a 100 is a prime. • I can recall prime numbers up to 19. 					
	<ul style="list-style-type: none"> • to multiply numbers up to 4 digits by a one- or two-digit number using an formal written method, including long multiplication for two-digit numbers 	<ul style="list-style-type: none"> • I can multiply numbers up to 4 digits by a one digit number. • I can multiply numbers up to 4 digits by a two digit number. • I can use a formal written method, including long multiplication for two digit number. 					
	<ul style="list-style-type: none"> • to multiply and divide numbers mentally drawing upon known facts 	<ul style="list-style-type: none"> • I can multiply numbers mentally. • I can divide numbers mentally • I can multiply numbers drawing upon known facts. • I can divide numbers drawing upon known facts. 					
	<ul style="list-style-type: none"> • to divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context 	<ul style="list-style-type: none"> • I can divide numbers up to 4 digits by a one digit number. • I can divide numbers up to 4 digits by a two digit number. • I can use a formal written method, including short division showing remainders suitable for the context. • I can show my answers for division in different ways including remainders as fractions, decimals or by rounding. 					
	<ul style="list-style-type: none"> • to multiply and divide whole numbers and those involving decimals by 10 	<ul style="list-style-type: none"> • I can multiply whole numbers by 10, 100 and 1000. • I can multiply decimals by 10, 100 and 1000. • I can divide whole numbers by 10, 100 and 1000. • I can divide decimals by 10, 100 and 1000. • I can multiply and divide by 1000 to convert between units e.g. km and m. 					
	<ul style="list-style-type: none"> • to recognise and use square numbers and cube numbers and the notation for squared numbers (²) and cubed (³) 	<ul style="list-style-type: none"> • I know what a square number is • I can use the term square number correctly • I can use the notation for square numbers. • I know what a cube number is • I can use the term cube number correctly • I can use the notation for cubed numbers correctly. • I can construct equivalent statements for square and cube numbers. 					
	<ul style="list-style-type: none"> • to solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign 	<ul style="list-style-type: none"> • I can solve problems using a combination of addition, subtraction, multiplication and division. • I can explain the meaning of the equals sign. • I can use the equals sign to solve missing number problems • I can use the equals to express information such as; $a(b + c) = ab + ac$. 					
	<ul style="list-style-type: none"> • to solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates 	<ul style="list-style-type: none"> • I can solve problems by multiplication and division. • I can solve problems including scaling by simple fractions. • I can solve problems including scaling by simple rates. 					
Fractions (including decimals and percentages)	<ul style="list-style-type: none"> • to compare and order fractions whose denominators are all multiples of the same number 	<ul style="list-style-type: none"> • I can compare fractions whose denominators are all multiples of the same number. • I can order fractions whose denominators are all multiples of the same number. 					
	<ul style="list-style-type: none"> • to identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths 	<ul style="list-style-type: none"> • I can identify equivalent fractions of a given fraction (including tenths and hundredths) represented visually. • I can write equivalent fractions of a given fraction (including tenths and hundredths) represented visually. 					
	<ul style="list-style-type: none"> • to recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 11/5$) 	<ul style="list-style-type: none"> • I can recognise mixed numbers. • I can recognise improper fractions • I can convert an improper fraction to a mixed number and vice versa • I can write statements involving mixed numbers in a calculation with the same denominator. 					
	<ul style="list-style-type: none"> • to add and subtract fractions with the same denominator and multiples of the same number 	<ul style="list-style-type: none"> • I can add fractions with the same denominator • I can subtract fractions with the same denominator • I can add fractions with the same multiple • I can subtract fractions with the same multiple • I can add and subtract fractions through a variety of increasingly complex problems. (nsg) • I can count forward and backward in simple fractions (nsg) 					
	<ul style="list-style-type: none"> • to multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. 	<ul style="list-style-type: none"> • I can multiply proper fractions by whole numbers, supported by materials and diagrams • I can multiply mixed numbers by whole numbers, supported by materials and diagrams • I can find the fraction of a number by multiplying (e.g. $3/4$ of 24) (nsg) 					

		<ul style="list-style-type: none"> I can recognise fractions in real life situations and different contexts.(nsg) 					
	<ul style="list-style-type: none"> to read and write decimal numbers as fractions (e.g. 0.71 = 71/100) 	<ul style="list-style-type: none"> I can read decimal numbers as fractions I can write decimal numbers as fractions I can convert decimal numbers to fractions and vice versa, including problem solving including measures. (nsg) 					
	<ul style="list-style-type: none"> to recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents 	<ul style="list-style-type: none"> I can recognise and use thousandths and relate them to tenths I can recognise and use thousandths and relate them to hundredths and I can recognise and use thousandths and relate them to decimal equivalents 					
	<ul style="list-style-type: none"> to round decimals with two decimal places to the nearest whole number and to one decimal place 	<ul style="list-style-type: none"> I can round decimals with two decimal places to the nearest whole number I can round decimals with two decimal places to the nearest whole number and to one decimal place 					
	<ul style="list-style-type: none"> to read, write, order and compare numbers with up to three decimal places 	<ul style="list-style-type: none"> I can read numbers with up to three decimal places I can write numbers with up to three decimal places I can order and compare numbers with up to three decimal places 					
	<ul style="list-style-type: none"> to solve problems involving number up to three decimal places. 	<ul style="list-style-type: none"> I can solve problems involving number up to three decimal places. 					
	<ul style="list-style-type: none"> to recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal fraction 	<ul style="list-style-type: none"> I can recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred" I can write percentages as a fraction with denominator hundred, and as a decimal fraction 					
	<ul style="list-style-type: none"> to solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those with a denominator of a multiple of 10 or 25. 	<ul style="list-style-type: none"> I can solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ I can solve problems with a denominator of a multiple of 10 or 25. 					
Measures	<ul style="list-style-type: none"> to convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre) 	<ul style="list-style-type: none"> I know the relationships between different metric units of measure eg. cm and m, m and km, cm and mm, g and Kg, L and ml etc. I can use place value and relationships to convert between units of measure eg. 5m=500cm, 7m=7000mm, 1.2L=1200ml, $\frac{1}{4}m=0.25m=25cm$, $7m=0.007km$ etc. 					
	<ul style="list-style-type: none"> to understand and use equivalences between metric and common imperial units such as inches, pounds and pints 	<ul style="list-style-type: none"> I know equivalences between metric and imperial units of length. Eg. cm and metres with inches and feet; and between km and miles. I know equivalences between metric and imperial units of mass. Eg. between pounds (lbs) and Kg. I know equivalences between metric and imperial units of volume and capacity. Eg. pints with litres and cm³. 					
	<ul style="list-style-type: none"> to measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres 	<ul style="list-style-type: none"> I know that the perimeter of rectangles is $2l+2w$. I can measure lengths in cm and m to work out perimeters of shapes including squares, rectangles, T and L shapes etc.). I can calculate the perimeter in cm and m of shapes with given lengths including squares, rectangles, T and L shapes etc., including those with some unlabelled sides. I can find the unlabelled length of a rectangle, given its area and the length of one side. I can find the unlabelled length of a rectangle, given its perimeter and the length of one side. I can find the unlabelled length of a rectangle, using the algebraic formula for perimeter (eg. $4 + 2w = 20$). I can calculate the perimeter of a rectangle (including squares), given its area and the length of one side. 					
	<ul style="list-style-type: none"> to calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes 	<ul style="list-style-type: none"> I know that the area of a rectangle is length x width. I know area is measured using standard squares (eg. cm², m²). I can calculate the area of a rectangle given the length and width. I can compare by estimation the area of different rectangles (including squares). I can estimate the area of irregular shapes. 					
	<ul style="list-style-type: none"> to estimate volume (e.g. using 1 cm³ blocks to build cubes and cuboids) and capacity (e.g. using water) 	<ul style="list-style-type: none"> I understand the meaning of volume/capacity. I can estimate how many 1cm³ blocks are needed to build a cuboid of given dimensions. I can estimate the volume/capacity of a container using a 'standard' to compare against (eg. a 2L bottle). 					
	<ul style="list-style-type: none"> to solve problems involving converting between units of time 	<ul style="list-style-type: none"> I understand relationships between different units of time (eg. sec, min, hours and days.) I can convert between different measures of time. I can use all four operations to solve single and multi-step problems involving time. 					
	<ul style="list-style-type: none"> to use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling 	<ul style="list-style-type: none"> I can convert between units of measures when solving multi-step problems. I can use all four operations and scaling to solve single and multi-step problems using decimal notation for length. I can use all four operations and scaling to solve multi-step problems using decimal notation for mass. I can use all four operations and scaling to solve multi-step problems using decimal notation for capacity/volume. I can use all four operations and scaling to solve multi-step problems using decimal notation for money. 					
Geometry: properties of	<ul style="list-style-type: none"> to identify 3-D shapes, including cubes and cuboids, from 2-D representations 	<ul style="list-style-type: none"> I can identify 3-D shapes from 2-D representations 					
	<ul style="list-style-type: none"> to know angles are measured in degrees; estimate and compare acute, 	<ul style="list-style-type: none"> I know that angles are measured in degrees 					

shapes	obtuse and reflex angles	<ul style="list-style-type: none"> I can estimate acute angles I can estimate obtuse angles I can estimate reflex angles I can compare acute angles I can compare obtuse angles I can compare reflex angles 						
	<ul style="list-style-type: none"> draw given angles, and measure them in degrees (°) 	<ul style="list-style-type: none"> I can draw given angles I can measure angles in degrees 						
	<ul style="list-style-type: none"> to identify: <ul style="list-style-type: none"> angles at a point and one whole turn (total 360°) angles at a point on a straight line and ½ a turn (total 180°) other multiples of 90° 	<ul style="list-style-type: none"> I can identify angles at a point and one whole turn (total 360°) I can identify angles at a point on a straight line I can identify a half turn I can identify other multiples of 90° 						
		<ul style="list-style-type: none"> I can use the properties of rectangles to deduce related facts I can find missing lengths I can find missing angles 						
		<ul style="list-style-type: none"> I can distinguish between regular and irregular polygons 						
		<ul style="list-style-type: none"> I can draw lines with a ruler to the nearest millimetre I can measure accurately with a protractor 						
		<ul style="list-style-type: none"> I can use conventional markings for parallel lines I can use conventional markings for right angles 						
		<ul style="list-style-type: none"> I can use the term diagonal accurately I can make conjectures about the angles formed between sides and diagonals 						
	<ul style="list-style-type: none"> use the properties of rectangles to deduce related facts and find missing lengths and angles 	<ul style="list-style-type: none"> I can find missing angles using known facts I can find missing angles using known facts and relate to missing number problems 						
	<ul style="list-style-type: none"> to distinguish between regular and irregular polygons based on reasoning about equal sides and angles. 	<ul style="list-style-type: none"> I know the difference between regular and irregular shapes 						
Geometry: position, direction	<ul style="list-style-type: none"> to identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. 	<ul style="list-style-type: none"> I can identify the position of a shape following a reflection or translation I can describe the position of a shape following a reflection or translation I can represent the position of a shape following a reflection or translation I know that a shape has not changed when it is translated or reflected 						
Statistics	<ul style="list-style-type: none"> to solve comparison, sum and difference problems using information presented in a line graph 	<ul style="list-style-type: none"> I can identify 3-D shapes from 2-D representations 						
	<ul style="list-style-type: none"> to complete, read and interpret information in tables, including timetables. 	<ul style="list-style-type: none"> I can complete tables including timetables I can read tables including timetables I can interpret tables including timetables 						

Mathematics - Medium Term Plan

	Autumn		Spring		Summer			
Term:	1	2	3	4	5	6		
Year 6	Learning objective		Success Criteria			Coverage		
Number and place value	<ul style="list-style-type: none"> to read, write, order and compare numbers up to 10 000 000 and determine the value of each digit 		<ul style="list-style-type: none"> I can read numbers to at least 10 000 000 I can determine the value of each digit for numbers to at least 10 000 000 I can write numbers to at least 10 000 000 I can order numbers to at least 10 000 000 I can compare (< >) numbers to at least 10 000 000 					
	<ul style="list-style-type: none"> to round any whole number to a required degree of accuracy 		<ul style="list-style-type: none"> I can round any number up to 10 000 000 to the nearest 10 I can round any number up to 10 000 000 to the nearest 100 I can round any number up to 10 000 000 to the nearest 1000 I can round any number up to 10 000 000 to the nearest 10 000 I can round any number up to 10 000 000 to the nearest 100 000 					
	<ul style="list-style-type: none"> to use negative numbers in context, and calculate intervals across zero 		<ul style="list-style-type: none"> I can interpret negative numbers in context (including different number lines and scales) I can calculate intervals across zero (using a number line) 					
	<ul style="list-style-type: none"> to solve number problems and practical problems that involve all of the above. 		<ul style="list-style-type: none"> I can solve number problems and practical problems that involve ordering numbers I can solve number problems and practical problems that involve counting forwards I can solve number problems and practical problems that involve counting backwards I can solve number problems and practical problems that involve negative numbers I can solve number problems and practical problems that involve rounding numbers 					
Addition and subtraction, multiplication and division	<ul style="list-style-type: none"> to multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication 		<ul style="list-style-type: none"> I can multiply multi-digit numbers up to 4 digits by a 2-digit number using a formal written method 					
	<ul style="list-style-type: none"> to divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context 		<ul style="list-style-type: none"> I can divide numbers up to 4 digits by a two-digit whole number using the formal written method I can interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context I can round answers to a specified degree of accuracy (NSG) 					
	<ul style="list-style-type: none"> to perform mental calculations, including with mixed operations and large numbers 		<ul style="list-style-type: none"> I can perform mental calculations, including with mixed operations and large numbers I can calculate mentally with increasingly larger numbers and more complex calculations (NSG) 					
	<ul style="list-style-type: none"> to identify common factors, common multiples and prime numbers 		<ul style="list-style-type: none"> I can identify common factors I can relate common factors to finding equivalent fractions (NSG) I can identify common multiples I can identify prime numbers 					
	<ul style="list-style-type: none"> to use their knowledge of the order of operations to carry out calculations involving the four operations 		<ul style="list-style-type: none"> I know to work out the operation inside brackets first in a number sentence I can calculate number sentences which include brackets I can manipulate number sentences by using brackets (NSG) 					
	<ul style="list-style-type: none"> to solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 		<ul style="list-style-type: none"> I can identify the correct operation(s) to use in addition and subtraction multi-step problems I can identify the correct operation(s) to use in addition and subtraction multi-step problems in contexts I can explain which operations and methods to use and why 					
	<ul style="list-style-type: none"> to solve problems involving addition, subtraction, multiplication and division 		<ul style="list-style-type: none"> I can use the formal written method of columnar addition (NSG) I can solve problems involving addition I can use the formal written method of columnar subtraction (NSG) I can solve problems involving subtraction I can use the formal written methods for short and long multiplication (NSG) I can solve problems involving multiplication I can use the formal written methods for short and long division (NSG) I can solve problems involving division 					
	<ul style="list-style-type: none"> to use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. 		<ul style="list-style-type: none"> I can use estimation to check answers to calculations I can use estimation to determine, in the context of a problem, levels of accuracy 					
	<ul style="list-style-type: none"> Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting 		<ul style="list-style-type: none"> I can divide numbers up to 4 digits by a two-digit number using the formal written method of short division I can, where appropriate, interpret remainders according to the context 					

	remainders according to the context						
Fractions (including decimals and percentages)	<ul style="list-style-type: none"> to use common factors to simplify fractions; use common multiples to express fractions in the same denomination 	<ul style="list-style-type: none"> I can use common factors to simplify fractions I can use common multiples to express fractions in the same denomination 					
	<ul style="list-style-type: none"> to compare and order fractions, including fractions >1 	<ul style="list-style-type: none"> I can compare and order fractions 					
	<ul style="list-style-type: none"> to add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions 	<ul style="list-style-type: none"> I can add and subtract fractions with different denominators I can add and subtract fractions with mixed numbers 					
	<ul style="list-style-type: none"> to multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1/4 \times 1/2 = 1/8$) 	<ul style="list-style-type: none"> I can multiply simple pairs of proper fractions I can reduce my answer to the simplest form 					
	<ul style="list-style-type: none"> to divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$). 	<ul style="list-style-type: none"> I can divide proper fractions by whole numbers 					
	<ul style="list-style-type: none"> to associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $1/8$) 	<ul style="list-style-type: none"> I associate a fraction with division I can calculate decimal fraction equivalents 					
	<ul style="list-style-type: none"> to identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places 	<ul style="list-style-type: none"> I can identify the value of each digit to three decimal places I can multiply and divide numbers by 10 where the answers are up to three decimal places I can multiply and divide numbers by 100 where the answers are up to three decimal places I can multiply and divide numbers by 1000 where the answers are up to three decimal places 					
	<ul style="list-style-type: none"> to multiply one-digit numbers with up to two decimal places by whole numbers 	<ul style="list-style-type: none"> I can multiply one-digit numbers with up to two decimal places by whole numbers 					
	<ul style="list-style-type: none"> to use written division methods in cases where the answer has up to two decimal places 	<ul style="list-style-type: none"> I can use written division methods in cases where the answer has up to two decimal places 					
	<ul style="list-style-type: none"> to solve problems which require answers to be rounded to specified degrees of accuracy. 	<ul style="list-style-type: none"> I can solve problems which require answers to be rounded to specified degrees of accuracy 					
Ratio and proportion	<ul style="list-style-type: none"> to recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. 	<ul style="list-style-type: none"> I can recall equivalences between simple fractions, decimals and percentages I can use equivalences between simple fractions, decimals and percentages 					
	<ul style="list-style-type: none"> to solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facts 	<ul style="list-style-type: none"> I can solve problems using integer multiplication and division facts 					
	<ul style="list-style-type: none"> to solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison 	<ul style="list-style-type: none"> I can solve problems involving the calculation of percentages of whole numbers I can solve problems involving the calculation of percentages of measures I can use of percentages for comparison 					
	<ul style="list-style-type: none"> to solve problems involving similar shapes where the scale factor is known or can be found 	<ul style="list-style-type: none"> I can solve problems involving similar shapes where the scale factor is known I can solve problems involving similar shapes where the scale factor can be found 					
	<ul style="list-style-type: none"> to solve problems involving unequal sharing and grouping using knowledge of fractions and multiples 	<ul style="list-style-type: none"> I can solve problems involving unequal sharing I can solve problems involving grouping 					
Measures	<ul style="list-style-type: none"> to enumerate all possibilities of combinations of two variables 	<ul style="list-style-type: none"> I can find all the possibilities when using symbols for numbers I don't know yet e.g. using x and y 					
	<ul style="list-style-type: none"> to solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate 	<ul style="list-style-type: none"> I can solve multi-step problems involving conversion between units of measure (with numbers up to 3dp). I can perform calculations for temperature, involving negative numbers, with the help of a number line. 					
	<ul style="list-style-type: none"> to use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places 	<ul style="list-style-type: none"> I can use place value and relationships to convert between units of measures, up to 3dp eg. $502.1\text{cm}=5.021\text{m}$, $2\text{mm}=0.002\text{m}$, $250\text{ml}=0.25\text{L}=\frac{1}{4}\text{L}$, $2547\text{m}=2.547\text{km}$ etc. I understand that speed can be measured eg. in metres-per-second, km-per-hour, miles-per-hour etc., and I can explain what it means. 					
	<ul style="list-style-type: none"> to convert between miles and kilometres 	<ul style="list-style-type: none"> I know that 8km is roughly equivalent to 5 miles, and I can use this to estimate/compare/check. I can convert between miles and kilometres. I understand line-graphs and map scales showing the equivalence between miles and km. 					
	<ul style="list-style-type: none"> to recognise that shapes with the same areas can have different perimeters and vice versa 	<ul style="list-style-type: none"> I can find polygons that have the same perimeter, but different rectangles. I can find polygons that have the same area, but a different perimeter. 					
	<ul style="list-style-type: none"> to recognize when it is possible to use formulae for area and volume of shapes 	<ul style="list-style-type: none"> I can apply known area formulae when challenged with calculating the area/volume of more complex shapes (eg. by dissecting a complex shape into smaller shapes). 					
	<ul style="list-style-type: none"> to calculate the area of parallelograms and triangles 	<ul style="list-style-type: none"> I know the area of a parallelogram (base x height). I know that the area of a triangle is $\frac{1}{2}(\text{base} \times \text{height})$. I can calculate the area of parallelograms and triangles, with a given base and height measurement, using formulae. 					
	<ul style="list-style-type: none"> to calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3) and extending to other units, such as mm^3 and km^3. 	<ul style="list-style-type: none"> I know that volume can be measured using cubes. I know the formula for volume of cubes and cuboids (length x width x height). I can calculate the volume of a cube/cuboid (in cm^3 and m^3). I can calculate the volume of a cube/cuboid (in mm^3 and km^3). 					
Geometry:	<ul style="list-style-type: none"> to draw 2-D shapes given dimensions and angles 	<ul style="list-style-type: none"> I can draw 2-D shapes using given dimensions 					

properties of shape		<ul style="list-style-type: none"> • I can draw 2-D shapes using given angles • I can describe the properties of shapes 					
	<ul style="list-style-type: none"> • to recognise, describe and build simple 3-D shapes, including making nets 	<ul style="list-style-type: none"> • I can recognise simple 3-D shapes • I can describe simple 3-D shapes • I can build simple 3-D shapes • I can recognise simple nets of 3-D shapes • I can describe simple nets of 3-D shapes • I can build simple nets of 3-D shapes • I can draw nets accurately • I can use measuring tools • I can use conventional markings and labels for lines and angles 					
	<ul style="list-style-type: none"> • to compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles 	<ul style="list-style-type: none"> • I can compare and classify geometric shapes based on their properties and sizes • I can find unknown angles in any triangles • I can find unknown angles in any quadrilaterals • I can find unknown angles in any regular polygons • I can describe how unknown angles in any triangles are derived • I can describe how unknown angles in any quadrilaterals are derived • I can describe how unknown angles in any regular polygons are derived • I can express the relationship of unknown angles algebraically – $a=180 - (b+c)$ • I can express unknown measurements algebraically – $d= 2xr$ 					
	<ul style="list-style-type: none"> • to illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius 	<ul style="list-style-type: none"> • I can illustrate and name the radius in a circle • I can illustrate and name the diameter in a circle • I can illustrate and name the circumference in a circle • I can explain that the diameter is twice the radius 					
	<ul style="list-style-type: none"> • to recognize angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. 	<ul style="list-style-type: none"> • I can recognise angles where they meet at a point • I can find missing angles where they meet at a point • I can recognise angles on a straight line • I can find missing angles on a straight line • I can recognise angles where they are vertically opposite • I can find missing angles where they are vertically opposite 					
Geometry: position and direction	<ul style="list-style-type: none"> • to describe positions on the full coordinate grid (all four quadrants) 	<ul style="list-style-type: none"> • I can describe positions on the full coordinate grid (4 quadrants) 					
	<ul style="list-style-type: none"> • to draw and translate simple shapes on the coordinate plane, and reflect them in the axes. 	<ul style="list-style-type: none"> • I can draw simple shapes on the coordinate plane • I can translate simple shapes on the coordinate plane • I can reflect simple shapes in the axes on a coordinate plane • I can draw and label a pair of axis in all four quadrants with equal scaling • I can draw and label rectangles (including squares) specified by coordinates in all four quadrants • I can draw and label parallelograms specified by coordinates in all four quadrants • I can draw and label rhombuses specified by coordinates in all four quadrants • I can predict missing coordinates using the properties of shapes 					
Statistics	<ul style="list-style-type: none"> • to interpret and construct pie charts and line graphs and use these to solve problems 	<ul style="list-style-type: none"> • I can interpret pie charts and use these to solve problems • I can construct pie charts and use these to solve problems • I can interpret line graphs and use these to solve problems • I can construct line graphs and use these to solve problems 					
	<ul style="list-style-type: none"> • to calculate and interpret the mean as an average. 	<ul style="list-style-type: none"> • I can calculate the mean as an average • I can interpret the mean as an average 					
Algebra	<ul style="list-style-type: none"> • to use simple formulae 	<ul style="list-style-type: none"> • I can use simple formulae. 					
	<ul style="list-style-type: none"> • to generate and describe linear number sequences 	<ul style="list-style-type: none"> • I can generate and describe linear number sequences. 					
	<ul style="list-style-type: none"> • to express missing number problems algebraically 	<ul style="list-style-type: none"> • I can express missing number problems algebraically 					
	<ul style="list-style-type: none"> • to find pairs of numbers that satisfy an equation with two unknowns 	<ul style="list-style-type: none"> • I can find pairs of numbers that satisfy an equation with two unknowns. 					

	<ul style="list-style-type: none">• to enumerate possibilities of combinations of two variables.	<ul style="list-style-type: none">• I can establish the number of possibilities derived from combinations of two variables.• I can use symbols and letters to represent missing numbers in a number sentence.• I can use symbols and letters to represent missing numbers in the context of length• I can use symbols and letters to represent missing numbers in the context of co-ordinates.• I can use symbols and letters to represent missing numbers in the context of angles.• I can use formulae in science.• I can use equivalent expressions• I can generalise number patterns (for example, find the nth value)• I can use algebra to solve numbers puzzles						
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These are the strategies that need to be taught for problem solving and they are generic to each year group, differentiated by the context of the mathematics and the age/stage of the pupils.

Assessing using and applying mathematics, reasoning		Learning outcome: "I can"
Information	Locate/collect relevant information	I can locate relevant information I can collect relevant information I can say why it is relevant
	Sort/classify/sequence/compare/analyse	I can sort information I can sequence information (numbers shapes and objects) I can compare information I can analyse information
Reasoning	Give reasons for opinions	I can give reasons for my answers or methods I can explain why I am collecting information and what my information shows
	Make deductions	I can deduce information from a problem
	Use precise language	I can use precise mathematical language and key vocabulary in my explanations
	Make judgements	I can make judgements in problems I can decide which operation and method to use and choose a way of recording and organising information
Enquiry	Ask questions	I can ask questions relevant to the problem
	Pose problems	I can pose problems for my peers to solve
	Use a range of strategies/different approaches	I can use a range of strategies I can use different approaches
	Apply in a different context	I can apply strategies that I know to other contexts
	Plan	I can plan a way to solve a problem
	Predict	I can predict and estimate the answer to the number position I can predict the solution to a logical problem
	Test systematically	I can test my own ideas
	record systematically	I can clearly record my method and my answers I can use mathematical language when investigating a problem I can use mathematical symbols, language or diagrams to interpret results
Evaluative	Evaluate \ Check results	I can check my results with a peer I can check my results independently I can evaluate my results with a peer I can evaluate my results independently
	Judge/make general statements/	I can make judgements about a problem I can make general statements about a problem
	recognise patterns	I can recognise patterns in a problem
	draw own conclusions	I can draw own conclusions
	Evaluate criteria for judging/give clear explanations	I can give a clear explanation of my answer or my method
	Present methods, solutions and conclusions	I can present methods I can present solutions I can present conclusions
	Interpret methods, solutions and conclusions	I can interpret methods I can interpret solutions I can interpret conclusions
Strategies	Look for important words/phrases	I can identify important words and phrases
	Make a list, table or chart	I can make a list I can make a table I can make a chart
	Look for a pattern or sequence	I can look for a pattern in a problem I can look for a sequence in a problem
	See mathematical connections	I can see mathematical connections I can make mathematical connections I can use mathematical connections I can apply mathematical connections
	Make and test a prediction	I can make a prediction I can test a prediction
	Work backwards	I can work backwards through a problem to check my results
	Use trial and improvement	I can use trial and improvement to arrive at a sensible conclusion
		All of these can be further differentiated by: I can do this with an adult I can do this with a friend or peer I can do this by myself

Logic problems and puzzles	
When solving logic problems and puzzles, the strategies children need to be able to draw on include :	
• Identifying carefully what is known and what needs to be found and thinking about how they might relate;	<ul style="list-style-type: none"> • I can say what I know and what needs to be found out • I can tell you what connections I can see
• Looking through the information that is given for any relationships or patterns that can be developed and used;	<ul style="list-style-type: none"> • I can tell you what relationships I can see • I can tell what patterns I can see • I can tell you how I will use the pattern to solve my puzzle
• Developing a line of thinking that involves making inferences and deductions, for example 'if I know that then this could or must be true', and testing these out against the given information;	<ul style="list-style-type: none"> • I can use information that I know to find things I don't know • I can test my answers to see if I am right • I can use the information I have to test my theory
• Taking one piece of the information and changing it, while keeping everything else fixed, to see what effect it has on the problem;	<ul style="list-style-type: none"> • I can change just one piece of information and see what happens to the problem
• Choosing a way of recording and organising the given information that helps to see how the problem is structured;	<ul style="list-style-type: none"> • I can choose a way of recording the information • I can organise my information so that it helps me solve the puzzle
• Checking answers along the way to see if they satisfy the conditions or rules.	<ul style="list-style-type: none"> • I can remember to check all the time that I am following the rules

Finding rules and describing patterns	
When solving 'Patterns and relationships' problems, the strategies children need to be able to draw on include:	
• oral rehearsal of the pattern they can see to refine their thoughts	<ul style="list-style-type: none"> • I can practise saying the pattern to help me sort out my thinking
• having a system for recording the pattern e.g. using pictures, tables or lists of calculations	<ul style="list-style-type: none"> • I can make a list to show my pattern • I can use pictures to show my patterns • I can use calculations to show my patterns
• organising the recording of patterns, e.g. making an ordered list or table and adapting it as more information is collected in order to predict what comes next	<ul style="list-style-type: none"> • I can make an ordered list to help me predict what comes next • I can make a table to help me predict what comes next • I can change my lists and tables when I need to
• eventually, describing same general term using mathematical notation even if they see the sequence differently.	<ul style="list-style-type: none"> • I can use mathematical language to describe my patterns • I can explain my findings using mathematical language

Finding all possibilities	
When solving 'Finding all possibilities' problems, the strategies children need to be able to draw on include:	
• having a system for testing possibilities, e.g. start with a small number and build up to bigger numbers	<ul style="list-style-type: none"> • I start with small numbers to help me be systematic
• organising the recording of possibilities, e.g. make an ordered list or table and adapt it as more information is collected	<ul style="list-style-type: none"> • I can make an ordered list to help me predict what comes next • I can make a table to help me predict what comes next • I can change my lists and tables when I need to
• using a method of tracking what has been included and what has not to isolate relevant information	<ul style="list-style-type: none"> • I can sort through the information to see what is important • I can tell you what other information I need
• having a way of checking for any repeats and deciding when all possibilities have been found.	<ul style="list-style-type: none"> • I can choose a way of recording all the possibilities so that I can check for repeats • I can decide when I think all the possibilities have been found and explain why.