



# Maths

Nursery	Develop Matters PoS	Knowledge	Skills	Concepts	Vocabulary
<b>Autumn Term 1</b>					
<b>Who am I?</b>	Number: Fast recognition of up to 3 objects, without having to count them individually ('subitising').	Numbers represent groups of objects.	subitising	Number	1,2,3, 4, 5, 6, 7, 8, 9, 10
	Number: Recite numbers past 5.	Number names	Reciting numbers	Counting	
<b>Autumn Term 2</b>					
<b>Who is in my community?</b>	Number: Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').	Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').	Saying the numbers in order; 1:1 correspondence.	Count, number, cardinal principle.	Number names, more than, fewer than, the same, how many
	Number: Say one number for each item in order: 1,2,3,4,5.	Know that it is important to only say one number for each item, and to only point to one item for each number.	Saying the numbers in order; 1:1 correspondence.	Count, number, cardinal principle.	
	Numerical Patterns: Compare quantities using language: 'more than', 'fewer than'.	Know that quantities can be compared.	Comparing, saying which has more/fewer than.	more, fewer, the same	
<b>Spring Term 1</b>					

<b>How do we get to the South Pole?</b>	Number: Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.	A numeral represents a number; A group has a particular number of items in it.	Counting, matching numbers	Count, number, cardinal principle.	Number names, how many, under, on, next to, between, behind, over, forwards, backwards
	Number: Show 'finger numbers' up to 5.	I can use my fingers to show a number.	Counting fingers, showing number on fingers.	number, represent	
	Number Patterns: Understand position through words alone – for example, "The bag is under the table," – with no pointing.	I can use words to convey where something is in terms of its position.	Verbalising where something is using the key vocab.	position, under, on, over, next to, between, behind	
	NP: Describe a familiar route				
	NP: Discuss routes and locations, using words like 'in front of' and 'behind'.	I can use words to convey where something is in terms of its position.	Verbalising where something is using the key vocab.	position, under, on, over, next to, between, behind, forwards, backwards.	
	NP: Discuss routes and locations, using words like 'in front of' and 'behind'.				
<b>Spring Term 2</b>					
<b>What can we grow?</b>	Number: Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.	A numeral represents a number; A group has a particular number of items in it.	Counting, matching numbers	Count, number, cardinal principle.	Number names, triangle, square, oval, rectangle, circle, hexagon, prism, pyramid, sphere, cube, cuboid, cylinder, flat, round, straight, corner, edge, face, side, flat, big, small
	Number: Show 'finger numbers' up to 5.	I can use my fingers to show a number.	Counting fingers, showing number on fingers.	number, represent	
	Numerical Patterns: Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.	We can name shapes according to their properties. We can count their faces, sides and corners.	Recognising 2D and 3D shapes, counting their faces, sides and corners. Finding shapes in the environment.	shape, 2D, 3D	
	NP: Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.	We can use shapes to create things, and can select them according to their properties and suitability.	Creating using shapes	shape, 2D, 3D, functionality	
	NP: Combine shapes to make new ones – an arch, a bigger triangle etc	We can make new shapes by combining shapes.	Manipulating, visualising and creating using shapes.	make, create, 2D shape, 3D shape, face, side, corner	
<b>Summer Term 1</b>					

<b>What is under the sea?</b>	Number: Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.	A numeral represents a number; A group has a particular number of items in it.	Counting, matching numbers	Count, number, cardinal principle.	add, take away, makes, equals, and, more, less, number names, big, bigger, biggest, small, smaller, smallest, long, sort, heavy, light
	Number: Experiment with their own symbols and marks as well as numerals.	We can represent number in a wide range of creative ways.	counting, recording, mark-making, imagining, representing	Count, number, record, represent	
	Number: Solve real world mathematical problems with numbers up to 5.	Number problems can be found in narratives and real life situations and we can find our own ways to solve them.	creative problem solving; finding own way to solve problems.	count, number, more, less	
	Numerical Patterns: Make comparisons between objects relating to size, length, weight and capacity.	We can compare objects and say which is bigger /smaller /longer /shorter /heavier /lighter /holds more /holds less.	Comparing		
<b>Summer Term 2</b>					
<b>Where will adventure take us?</b>	Number: Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.	A numeral represents a number; A group has a particular number of items in it.	Counting, matching numbers	Count, number, cardinal principle.	number names, and, add, plus, take away, minus, equals, makes, more, fewer, pattern, pointy, spotty, stripy, first, next, then, at the end, finally
	Number: Experiment with their own symbols and marks as well as numerals.	We can represent number in a wide range of creative ways.	counting, recording, mark-making, imagining, representing	record, represent	
	Number: Solve real world mathematical problems with numbers up to 5.	Number problems can be found in narratives and real life situations and we can find our own ways to solve them.	creative problem solving; finding own way to solve problems.	number problem	
	Number Patterns: Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc.	There are patterns all around us and we can spot them in the environment.	Noticing, identifying and talking about patterns.	pattern	
	NP: Extend and create ABAB patterns – stick, leaf, stick, leaf.	We can create our own patterns.	creating patterns.	repeating pattern	
	NP: Notice and correct an error in a repeating pattern.	We can find what is wrong in a repeating pattern.	Identifying errors in repeating patterns.	repeating pattern, error	

	NP: Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	Events happen in order, and we can describe the position of them using words.	Correctly identifying the order of events and using the correct vocabulary to describe that order.	sequence of events	

Reception	Development Matters PoS	Knowledge	Skills	Concepts	Vocabulary
<b>Autumn Term 1</b>					
<b>What makes me happy and healthy?</b>	Number and Numerical Patterns Working towards ELG: <b>Number ELG</b> Children at the expected level of development will: -Have a deep understanding of number to 10, including the composition of each number;	knowing that the last number represents how many - cardinality	use one to one correspondence to count a small group of objects	Cardinality Ordinality Subitising	subitise, total, altogether, how many? count,
	-Subitise (recognise quantities without counting) up to 5;	knowing number names and numerals	touch, move and count		
	-Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.	knowing the day has an order/sequence developing vocab in relation to time	using numbers names in correct order		
	Numerical Patterns ELG Children at the expected level of development will: 12		match quantity to correct numeral		
	-Verbally count beyond 20, recognising the pattern of the counting system;		count amounts in different arrangement of objects		
	-Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;		order and sequence events correctly		
	-Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.		use everyday language related to time		
<b>Autumn Term 2</b>					
	Counts objects, actions and sounds	knowing a group of objects can be represented by a numeral	using steps to counting we have already established	Cardinality	chronology, time, subitise, total, groups, altogether, add, take away, length, weight, heavy, light, heaviest, lightest, number.
	Count beyond ten	knowing different groups can have different amounts	establishing how many are in each group	Touch and move and count	

<b>Where in the world do animals live?</b>	Compose and decompose shapes so that children understand that shapes can have other shapes within it	knowing when we combine groups the amount increases/changes know numerals represent amounts	counting on when counting multiple groups together knowing colour and shape of the coins	Chronology	
	continue, copy and create repeating patterns	knowing money has value and it can be used in exchange for goods	use numerals accurately to represent amount		
	Compare length, weight and capacity		recognise and read numerals matching correct numeral to amount		
<b>Spring Term 1</b>					
<b>What makes a good toy?</b>	Finds one more or one less from a group of up to five objects, then ten objects.	Understanding that numbers (1-10) have an order.	Knowing how to count on or back.	Addition Touch and move and count Time Value of money Understanding meaning of vocabulary	add, money, value, total, 1p, 2p, 5p, 10p, pound, pence, altogether, add,
	Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.	Know the meaning of the terms one more/one less.	Knowing what one more/ one less of a given number is.		
	Begins to identify own mathematical problems based on own interests and fascinations.	Know that numbers are represented with a numeral and hold a real value/amount.	Recognising the formation of numbers to select the correct one and using counting skills to count the matching number.		
	Orders two or three items by length or height.	Knowing that two groups can be joined together to create a new number.	To demonstrate a value with its numeral.		
	Orders two items by weight or capacity.	Knowing that all numbers are made up of different numbers.	Practically and verbally counting two groups then finding the answer. Using counting skills.		
		Knowing money has value and it can be used in exchange for goods			
		Knowing that different numbers hold different values and can be compared.			
		Know the terms length, weight and capacity and understand that these are used to measure different objects.			

		Know that objects can be measured in different ways.			
<b>Spring Term 2</b>					
<b>What happens on the farm?</b>	Compare length, weight and capacity.	Understanding the meaning of the concepts. How to measure and what measure means.	Vocab of comparison.	Weight, length and capacity.	Compare, add, total, plus, number, weight, length, height. Positional language: in front, next to, in between, on top, underneath, behind, left and right.
		Know what repeating means.	Using knowledge of measure to compare in different contexts.	Comparison.	
	Continue, copy and create repeating patterns.	Know what a repeating pattern is and that it won't always look the same.	Use their knowledge of what repeating means to create different patterns in a range of contexts.	Addition.	
		Understand the pattern of numbers beyond 10 and how these numbers are represented by numerals.	Be able to count beyond ten. Recognise numerals from 10 to 20.	Touch and move and count.	
	Count beyond ten.	Understand that teen numbers are written to represent 1 lot of ten and an amount of ones e.g. 14 is 1 lot of 10 and 4 ones.		Understanding meaning of vocabulary. Chronology.	
				Spatial reasoning	
<b>Summer Term 1</b>					
<b>How can I be a superhero?</b>	Count beyond ten.	knowing that the last number represents how many - cardinality	Use one to one correspondence to count a small group of objects touch, move and count	Cardinality	number names, subitise, sequence, days of the week, months of the year, count, one more, one less, total, add, take away, less than, more than, number bonds, part part whole.
	Compare numbers	knowing number names and numerals	using numbers names in correct order	Ordinality	
	Explore the composition of numbers to 10	knowing the day has an order/sequence developing vocab in relation to time	match quantity to correct numeral	Subitising	
	Automatically recall number bonds for numbers 0–5 and some to 10. ELG:		count amounts in different arrangement of objects order and sequence events correctly		
	Have a deep understanding of number to 10, including the composition of each number.		use everyday language related to time		

	Verbally count beyond 20, recognising the pattern of the counting system.				
<b>Summer Term 2</b>					
<b>What goes up, up and away?</b>	Count beyond 10.	Understanding the meaning of the concepts.	Vocab of comparison.	Weight, length and capacity.	more than, less than, greater than, ten, compare, add, take away, double, halving, share
	Compare numbers.	How to measure and what measure means.	Using knowledge of measure to compare in different contexts.	Comparison.	
	Understand the 'one more than/one less than' relationship between consecutive numbers.	Know what repeating means.	Use their knowledge of what repeating means to create different patterns in a range of contexts.	Addition.	
	Automatically recall number bonds to 0 to 5 and some to 10.	Know what a repeating pattern is and that it won't always look the same.	Be able to count beyond ten.	Touch and move and count. .	
		Understand the pattern of numbers beyond 10 and how these numbers are represented by numerals.	Recognise numerals from 10 to 20.	Understanding meaning of vocabulary.	
		Understand that teen numbers are written to represent 1 lot of ten and an amount of ones e.g. 14 is 1 lot of 10 and 4 ones.		Chronology	



Year 1	National Curriculum PoS	Knowledge	Skills	Concepts	Vocabulary
<b>Autumn Term 1</b>					
<b>What do I know about the UK and where I live in Didsbury?</b>	Counting a variety of objects and manipulatives to 10 ensuring 1:1 correspondence. Verbally counting back from 10 to 0.	Number to 10. Number sense to 10.	Able to count objects up to 10.	Number sense	Part part whole Tens frame Num
	Ordering numbers to 10.	Understand that numbers have different value and follow on from one another.	Can show how to order numbers to 10.	Place value	
	Using a variety of objects to represent numbers to 10.  Using tens frames to represent numbers.	Understand numbers can be represented by objects.	Can represent different numbers using objects and tens frames.		
	Comparing numbers and understanding the concept of 1 more, 1 less and representing this with concrete objects.	Understand that we can find 1 more and 1 less of a number.	Can compare numbers and show 1 more and 1 less of a number.		
	Knowing number bonds to 10	Knowing number bonds to 10	Can say the number bond to 10 for any number 0 -10.		
	Comparing groups of different amounts and using mathematical language such as less than, more than, greater than.	Know that numbers have different value and can be compared.	Can compare different amounts and use mathematical language such as less than, more than, greater than		
	Odd and even numbers	Numbers are odd or even.	Can understand what odd and even mean and show which numbers are odd and even.		
<b>Autumn Term 2</b>					
	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	Knowing number bonds to 10 Begin to learn number bonds to 20.	Correctly form numbers to 10	Number bonds	

<b>How different was my grandparents' childhood to mine?</b>	Represent and use number bonds and related subtraction facts within 10.	Know that number bond diagrams can be used to represent addition, subtraction and addition and subtraction families.	Representing number using objects, representing addition and subtraction using objects.	Addition and subtraction	
	Read and write numbers from 1 -20 in words, count in multiple of twos.	To know the relevant terminology for addition and subtraction and understand the concepts of addition and subtraction.	Counting accurately up to and back from 20	Counting in 2s	
	Represent numbers using objects and pictorial representations including the number line.	Know to count on from the greater number. Knowing positional terminology- first second third	Counting in 2's	3D shape	
			Effectively using a number line to perform addition and subtraction equations.	Time	
			Add and subtract one-digit numbers to 10.		
			Drawing information from visual representations to inform additions and subtractions number stories.		
			Continue to read number words.		
	Recognise and use language relating to dates, including days of the week.	Know the days of the week.	Apply and order the days of the week in context		
	Recognise and name common 3 D shapes	Identify 3D shapes and learn their properties	Compare similarities and differences between 2D shapes and 3D shapes		
		Explore everyday objects and use mathematical language to describe them			

**Spring Term 1**

	Read, write and interpret mathematical statements	Know numbers to 20 and 40	Correctly form numbers to 20	Number bonds	Addition Subtraction Fact family
	Represent and use number bonds and related subtraction facts within 20.	Know number bonds to 20	Be able to use addition facts to	Addition and subtraction	
	Read and write numbers from 1 -20 in words, count in multiple of twos.	Know that addition and subtraction are inverse of each other	Be able to compare and order	Fact families	

<p><b>Why are humans not like tigers? Animals including humans</b></p>	Represent numbers using objects and pictorial representations including the number line.	Know the meaning of the words more, less, greater, fewer.	Represent numbers using objects	Counting in multiples of 2s, 5s	
	Add and subtract one-digit and two-digit numbers	Know the relevant terminology for addition and subtraction and understand the concepts of addition and subtraction.	Count accurately up to and back	and 10s.	
	Compare, describe and solve practical problems	Know to count on from the greater number.	Effectively use a number line to	Representing number through concrete and pictorial forms.	
	Measure and begin to record the following	Know that two digit numbers are split into tens and ones.	Add and subtract one-digit numbers to 20		
	Recognise and name common 2-D shapes	Know what the terms length and	Draw information from visual representations to inform additions and subtraction number stories.	Length, height, measuring.	
	Recognise and name common 3-D shapes	Know that things can be measured	Continue to read number words	Standard and non standard	
		Know that we can identify an object	Use a ruler, measuring tape or	units of measurements.	
<b>Spring Term 2</b>					
<p><b>How can I make a fashionable logo</b></p>	Identify and represent Numbers up to 40 using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.	To understand that digits represent tens and ones Know how to use place value to compare two or three numbers To know how to compare numbers using number bonds, 100-squares and number lines to determine how much more/less. Know how to use a number line to complete patterns Know what methods to use to solve one step addition and subtraction word problems.	Count in tens and ones using base ten and write the numbers in a place value chart. Arrange three numbers in order of size and determine which is bigger/smaller. Complete a number pattern using a number line.	Counting in tens and ones	More than Less than Equal to Nu
	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ .	Know how to write a number calculation based on word problems.	Use and apply number bonds and visual representations to solve word problems	Comparing numbers.	

<p><b>about where I am from?</b></p>	Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with support.	To know how to apply addition and subtraction to multi-step word problems; to be able to use number bonds to make 10 when adding.	Use the concept of more/less to solve word problems..	Finding out how much more. Making number patterns.	
		To know how to make equal groups and how to arrange them to count them efficiently.	Write number calculations based on word problems.	Solving addition and	
		Know how to make an array to multiply a number of objects.	Choose the correct operation and use pictorial representations to help solve a word problem	subtraction word problems.	
			To apply knowledge of addition and subtraction to solve problems.	Multiplication.	
			Group objects equally and count them to multiply.	Making and adding equal	
			Make equal rows to count even numbers efficiently	groups.	
				Solving multiplication word problems.	
				Division	

**Summer Term 1**

	Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	To understand that digits represent tens and ones Know how to use place value to compare two or three numbers	Arrange three numbers in order of size and determine which is bigger/smaller. Complete a number pattern using a number line.	Counting in tens and ones	Tens Ones Addition Subtraction Doubling Equal Groups
	Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity	Know how to use a number line to complete patterns	Choose the correct operation and use pictorial representations to help solve a word problem	Comparing numbers	Multiplication Division Multiples Time
	Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity	To know how to make equal groups and how to arrange them to count them efficiently.	Group objects equally and count them to multiply.	Making number patterns	Hour Second Minute o'clock
	Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s	Know how to make an array to multiply a number of objects.	Make equal rows to count even numbers efficiently To solve word problems using equal groupings as the basis for multiplication.	Solving addition and subtraction word problems	Half past Morning Afternoon Evening Night time
		Know that doubling is the same as saying two groups of the same amount.	Divide equal numbers evenly into groups.	Multiplication	Capacity Volume EmptyFull

**Why are some places in the world always hot and others are always cold?**

	To know how to divide even numbers into equal groups using concrete material. To know how many groups will be created from sharing equally.	Use knowledge of division to solve problems.	Making and adding equal groups	More than Less than Mass Weight Heavy Light Heavier than Lighter than
	To know how to split and identify a shape/object that has been split into two and four equal parts	Make and identify halves and quarters	Doubling	
	Know how to work out half and a quarter of a number	Share and group objects into halves and quarters	Solving multiplication word problems.	
		Find a half or quarter of a group of things.	Division	
			Counting in multiples	
			Time	
Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	To know that we use time to organise the day	To be able to tell the time to the hour and half hour	Sequencing	
Recognise and use language relating to dates, including days of the week, weeks, months and years	To know we need clocks to tell the time	To be able to say what day and month it is	Chronological order	
Sequence events in chronological order using language	To know how what a minute, hour and day is	To be able to sequence events in chronological order	Analogue clock/digital clock	
	To know the days of the week and months of the year	Use time adverbials	Capacity,	
Measure and begin to record the following: capacity and volume. Compare, describe and solve practical problems for: capacity and volume [for example, full/empty, more than, less than, half, half full, quarter].	To know the terms 'empty', 'full', 'more than' and 'less than'.	Use concrete materials and pictures to determine whether a container has more or less liquid than another container.	volume,	
		Use concrete materials to determine the capacity of a container in non-standard units.	measuring.	
		To be able to identify a container that is a quarter the capacity or half the capacity of another container.	Standard and non standard units of measurements.	
Compare, describe and solve practical problems for: mass/weight [for example, heavy/light, heavier than, lighter than]. Measure and begin to record the following: mass/weight.	To know the terms 'heavy', 'light', 'heavier than', 'lighter than'.	Use concrete materials to determine categories for objects based on their mass.	Mass,	
			weight,	
			measuring.	

			Describe the mass of an object in non-standard units using balance scales and concrete materials and in pictorial representations.	Standard and non standard units of measurements.	
<b>Summer Term 2</b>					
<b>Who were and are the famous Manchester people?</b>	Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Know that addition and subtraction are inverse of each other. To know the meaning of the words more, less, greater, fewer.	To solve addition and subtraction calculations	Solving addition and subtraction word problems.	AdditionSubtractionMultiplesMc
	Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s	To know the relevant terminology for addition and subtraction and understand the concepts of addition and subtraction.	Draw information from visual representations to inform additions and subtraction number stories.	Counting in multiplies	
	Recognise and know the value of different denominations of coins and notes.	To know to count on from the greater number. To know that two digit numbers are split into tens and ones	To structure addition and subtraction calculations when given a concrete or pictorial representation	Missing number problems	
	Describe position, directions and movements, including whole, half, quarter and three-quarter turns.	To know number bonds to 20	Count accurately up to and back from 20 and 40	Place Value	
		To know the value of different coins	Identify how many tens and ones in a two digit number	Number bonds	
		To know the value of different notes	Continue to read number words	Positional language	
		To know we can record data	Effectively use a number line to perform addition and subtraction equations to 20	Money	
			To use knowledge of number bonds to 10 and 20 when adding and subtracting		
			To be able to recognise coins and notes.		
	To know we use specific language to describe a turn	To be able to turn according to instructions			

Year 2	National Curriculum PoS	Knowledge	Skills	Concepts	Vocabulary
<b>Autumn Term 1</b>					
<b>Would a Dinosaur make a good pet?</b>	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	To be able to count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	Rapid recall counting in 2, 5, 10s from 0.	Place value	Place Value Number Digit Part Part Whole Addition Formal Method Column Place Holder Add Subtract Part Part Whole Vertical method,
	compare and order numbers from 0 up to 100; use <, > and = signs	Understand the value of numbers from 0 up to 100	Use <, > & = to compare number sizes.	Addition and subtraction	
	identify, represent and estimate numbers using different representations, including the number line	Understand that all numbers have numerical and word representation.	identify, represent and estimate numbers using different representations, including the number line		
	read and write numbers to at least 100 in numerals and in words	recognise the place value of each digit in a two-digit number (tens, ones)	To be able to read and write numbers to at least 100 in numerals and in words		
	recognise the place value of each digit in a two-digit number (tens, ones)	To understand addition and subtraction facts to 20 and be able to use this knowledge to derive and use related facts up to 100.	Solve problems involving place value.		
	use place value and number facts to solve problems	To understand 10s and 1s to help when adding and subtracting numbers:	recall and use addition and subtraction facts to 20 fluently, to help solve more complex problems.		
	Addition and subtraction	To understand and be able to explain that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	add and subtract numbers using concrete objects, pictorial representations, and mentally		
	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	To understand the inverse relationship between addition and subtraction.	To use numberlines, part whole diagrams, place value charts, and the vertical method to add and subtract.		
	a two-digit number and tens		To use the inverse relationship between addition and subtraction to check calculations and solve missing number problems.		
	two two-digit numbers		solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.		

Autumn Term 2					
<b>What lessons have we learnt from the Great Fire of London?</b>			Addition and subtraction	Addition and Subtraction	Vertical method Times Divide Equal Groups of Lots of
	adding three one-digit numbers	To know 2,5, 10 times table	recite 2,5, 10 times table	Division and multiplication	
	add and subtract numbers using concrete objects, pictorial representations, and mentally, including:	To know multiplication is the same as repeated addition	Use times tables to solve problems		
	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.	To know how to divide by 2,5, 10	to divide by 2,5, 10		
	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.				
	solve problems with addition and subtraction:				
	using concrete objects and pictorial representations, including those involving numbers, quantities and measures				
	applying their increasing of mental and written methods				
	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change				
	Multiplication and division				
	Know and understand 2, 5, 10 times table				
	Multiply using addition, equal groups and see patterns				
Solve word problems using multiplication and division facts from 2,5,10 times table					
Spring Term 1					
<b>What are the main differences between my life and a small village in Africa?</b>	Multiplication and division	Multiplication and division	Multiplication and division	Multiplication	Times Divide Equal Groups of Lots of Shape Grids Cube Cuboid Sphere Prism Pyramid 2D shapes 3D shapes time minutes Seconds Hours Vertices Edges Faces Sides Properties Quadrilateral
	Use symbols for times and divide and understand grouping is a way of dividing	To know the times and divide signs, what they look like and understand how to use them	Use the times and divide signs		
	Divide by 2, 5, 10	To know that grouping is dividing	Use concrete objects, pictorial representations and mental strategies to support and solve multiplication and division problems		



<b>Africa?</b>	Pupils should be taught 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. Pupils should be taught to:	Know there are 24 hours in a day, 60 minutes in an hour, 60 seconds in a minute. Understand properties for 2D and 3D shapes include vertices, edges, faces, sides, corners	Can read the time to 5 minute intervals including o'clock, half past, quarter to and quarter past. Use precise language to describe the properties of 2D and 3D shapes,	
	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	2D shapes: Square, Circle, Rectangle, Triangle, Hexagon, Pentagon, Octagon, Polygon	Compare shapes by reasoning about similarities and differences in properties.	Shape
	identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	3D shapes: Cube, Cuboid, Sphere, Prism, Pyramid, Cylinder	Sort and describe shapes by common properties.	space
	identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]	Children begin to describe position, direction and movement in a range of different situations.	Identify, order, and arrange patterns of shapes in sequences	Measurement
	compare and sort common 2-D and 3-D shapes and everyday objects.	Children begin to move shapes using instructions written in mathematical language.	Move shape on grids using positional language (left, right, up, down, steps).	

**Spring Term 2**

<b>Which internationally famous person did something incredible in the past?</b>				Fractions Grouping Equal Groups Irregular shapes Clockwise Anticlockwise Half turn Quarter turn Fractions Word problems related to fractions and time Vertices Verex Faces Surfaces Flat faces
	order and arrange combinations of	Know the hour hand and	Rotating shapes on a grid	
	use mathematical vocabulary to	Fractions are part of number,	Writing instructions to move	
	Know the number of minutes in an hour	Recognise fractions 1/3, 1/4,	Can say how many minutes in	
	Pupils use fractions as 'fractions of'	Fractions connect to equal	Find a fraction of a shape	
	Pupils should count in fractions up to	Fractions are used to look at	Read and write fractions	
		Understand that the bottom	How to write fractions and	
	Comparing and ordering	Counting in fractions (1/4 and		

**Summer Term 1**

<p><b>How different are the environments close to our school?</b></p>	<p>Pupils will be taught how to answer problem solving questions and which methods to use in relation to measure, time, fractions, money, shape, position and direction.</p>	<p>Children know how to answer one and two step problem solving questions using their acquired knowledge of shape, space and measure and the four operations.</p>	<p>Children understand if a question is asking them to multiply, divide, add or subtract as well as identifying if it is a one or two step problem. Children understand which methods to use to support their working out in order to achieve the correct answer.</p>	<p>Problem solving and statistics</p>	<p>measure time money shape position direction problem solving methods fractions</p>
	<p>Pupils will be taught to:</p>	<p>Understand that charts can be used to find answer to questions about how many.</p>	<p>Can construct simple pictograms, tally charts, block diagrams and tables using a 1:2 correspondence. Can interpret a simple pictogram, tally chart, block diagram or table. e.g. What does this pictogram show?</p>		
	<p>interpret and construct simple pictograms, tally charts, block diagrams and simple tables.</p>	<p>Recognise that charts can be used to compare different categories.</p>	<p>Can ask and answer questions by interpreting a simple pictogram, tally chart, block diagram or table using a 1:2 correspondence. Can sort categories by their quantities in more challenging ways.</p>		
	<p>ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.</p>		<p>Can compare different categories within the data.</p>		
	<p>ask and answer questions about totalling and comparing categorical data.</p>				

**Summer Term 2**

<p>Statistics interpret and construct simple pictograms, tally charts, block diagrams and simple tables.</p>	<p>Statistics Understand that charts can be used to find answer to questions about how many.</p>	<p>Statistics Can construct simple pictograms, tally charts, block diagrams and tables using a 1:2 correspondence. Can interpret a simple pictogram, tally chart, block diagram or table. e.g. What does this pictogram show?</p>	<p>Statistics Addition and subtraction</p>	<p>Compare Add Subtract Part, Part, Whole Vertical method Inverse Opposite</p>
--	--	---	--	--

<b>How can I make a moving Victorian vehicle?</b>	ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.	Recognise that charts can be used to compare different categories.	Can ask and answer questions by interpreting a simple pictogram, tally chart, block diagram or table using a 1:2 correspondence. Can sort categories by their quantities in more challenging ways.	
	ask and answer questions about totalling and comparing categorical data.		Can compare different categories within the data.	
	Addition and subtraction	Addition and subtraction	Addition and subtraction	
	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	To understand and be able to explain that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	To use the inverse relationship between addition and subtraction to check calculations and solve missing number problems.	
	solve problems with addition and subtraction:	To understand the inverse relationship between addition and subtraction.	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	
	using concrete objects and pictorial representations, including those involving numbers, quantities and measures			
	applying their increasing of mental and written methods			

Year 3	National Curriculum PoS	Knowledge	Skills	Concepts	Vocabulary
<b>Autumn Term 1</b>					
<b>What causes earthquakes, volcanoes and mountains?</b>	<b>Number and place value</b>	Read/ write numbers to 1000	Compare and order numbers to 1000	Place value	More Less Greater Less than Ones, tens, hundreds, thousands Fifty Value Pattern Number line Fours Eights Compare Ascend/descend Addition Subtraction Column One more/less, ten more/less, hundred more/less Renaming/carrying Borrowing Total Altogether Take away  Concrete Pictorial Abstract
	Count from 0 in multiples of 4, 8, 50, 100; find 10 or 100 more or less than a given number.	understand the place value of each digit in a three-digit number (hundreds, tens, ones)	Regrouping - 10 ones to 1 ten, 10 tens to 1 hundred, 10 hundreds to 1 thousand	Numbers to 1000	
	Read and write numbers up to 1000 in numerals and in words.	zero as a place holder	How to use Base 10 to make a 1-3 digit number	Addition and subtraction	
	Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones).	Commutative law	count from 0 in multiples of 4, 8, 50 and 100	Renaming/borrowing	
	Identify, represent and estimate numbers using different representations.	Fact families	find 10 or 100 more or less than a given number	Column method	
	Compare and order numbers up to 1000.	Know that different formal and informal methods can be used to add and subtract.	read and write numbers up to 1 000 in numerals and in words		
	Solve number problems and practical problems involving these ideas.	Units of measurement.	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)		
	Addition/ subtraction	2D and 3D shapes	accurately use number lines and number bonds to add and subtract		
	Add and subtract numbers mentally, including: a three-digit number and ones	That 3D shapes can be constructed from a net.	use column method to add and subtract solve problems		
	a three-digit number and tens		estimate the answer to a calculation and use inverse operations to check answers		
	a three-digit number and hundreds				
	add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction				
	estimate the answer to a calculation and use inverse operations to check answers				
	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.				

## Autumn Term 2

**How can I create a large structure to represent Manchester?**

Addition and Subtraction: add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds	Know that a bar model can be used to solve number problems.	Represent a number	Bar models	Concrete Pictorial Abstract
Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	Know that a bar can represent any number and that the rectangles or 'bars' are proportional so that a larger number in a problem is represented by a larger bar.	Add and subtract using known methods	Place Value - use of base 10 values these show/support.	Repeated addition Inverse Division Renaming/carrying Column multiplication Bus stop
Estimate the answer to a calculation and use inverse operations to check answers	Know that a bar model can help us to understand which operations they need to use.	Draw a proportional bar to number	Number- multiplication and division.	Length Measure
Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	Know why they can't subtract small digits from larger digits, and how renaming (borrowing) helps this.	Count in multiples of 3, 4 and 8	Number - addition and subtraction	Centimeteres Millimetres Kilometres
Multiplication and Division - Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Know that x 2 is the same as doubling, and how this helps with x4 and x8.	Use pictorial representations and manipulatives to group and share numbers.		
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	Know that multiplication is repeated addition and that division is inverse of multiplication.	Solve problems using different methods such as grouping, sharing, formal written methods		
	Know times tables facts for numbers 3, 4 and 8 and their corresponding division facts.	Divide by grouping - using known multiples to support		
Solve problems, including missing number problems, involving multiplication and division.	Know that there is a link between the 2, 4 and 8 times table.	Chunking – numbers can be divided in groups of 10s and 1s		
	Know that when a number is multiplied it gets bigger and divided it gets smaller.	Generate key facts for divisor		
	Know that you can use a grid method to solve a multiplication problem.	Chunking – numbers can be divided in groups of 10s and 1s		
	Know that a number can be partitioned into 10s and 1s.	Generate key facts for divisor		
	Know that the word 'product' means multiply			

		Understand that multiplication is commutative, and division is not.			
		Understand that multiplication is commutative, and division is not.			
	<b>Measurement</b>	How many mm are in a cm, how many cm are in a m, how many m are in a km.	Accurately use/ read a tape measure	Measure	
	measure lengths (m/cm/mm)	Use a tape measure – begin at 1, read from the marking.	Estimate length of an object.		
	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers.	Know what the words length, height, distance mean.			
		Understand what mass is.			
		Know that 1kg = 100g			
		Know that 1000ml = 1l			
		Use a measuring jug to measure volume			

### Spring Term 1

<b>How did Britain change between the Stone age and</b>	<b>Number</b>	Know that x 2 is the same as doubling.	Count in multiples of 3, 4 and 8	Number-	Concrete Pictorial Abstract  Volume Weight Mass Increase Decrease, chunking factors, multiples, measure, centimetres, millimetres, metres, 3 dimensional, 2 dimensional, scales, nets, position, direction
	Multiplication and Division - Recall and use multiplication and division facts for the 3, 4, 8 and 10 multiplication tables	Know that multiplication is repeated addition	Use pictorial representations and manipulatives to group and share numbers.	multiplication and division.	
	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	Know times tables facts for numbers 3, 4 and 8 and their corresponding division facts.	Solve problems using different methods such as grouping, sharing, formal written methods		
		Know that there is a link between the 2, 4 and 8 times table.	Divide by grouping - using known multiples to support		
	Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Know that when a number is multiplied it gets bigger and divided it gets smaller.	Chunking – numbers can be divided in groups of 10s and 1s		
		Know that you can use a grid method to solve a multiplication problem.	Generate key facts for divisor		
		Know that a number can be partitioned into 10s and 1s.			

<b>the Stone age and Iron age?</b>		Know that the word 'product' means multiply			
		Know that division is the opposite of multiplication			
		Understand that multiplication is commutative.			
	<b>Measurement</b>		How to use a ruler correctly.	Equipment must be used accurately	
	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)		Measuring in cm's accurately		
			Use standard and non-standard units to measure ingredients.		
			Use scales accurately to measure.		
	<b>Geometry</b>		Drawing, making, recognising 3D nets.	Shape – that different 2D shapes can be constructed to make a 3D shape	
	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them		Use scales accurately to measure.		
		Drawing, making, recognising 3D nets.			

## Spring Term 2

	<b>Number</b>	Knowledge of how number bonds assist with simple addition and subtraction of money.	To apply counting on skills to count an amount of money starting with the pounds first.	Children are given opportunity to consolidate what they know about number, multiplication and addition and subtraction to measurement topics of time and money.	Concrete, abstract, pictorial, more, less, greater than, less than, addition, subtraction, number bonds, pounds, pence, bar model, mass, kilograms, grams, volume, capacity, hour, minute, second, interval, morning, afternoon, evening, am, pm, roman numeral, days, weeks, months, year, leap year, annual, duration, litres, millilitres, difference,
	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number		To apply what they know about number bonds to add and subtract amounts of money.		
	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	To understand the importance of number bonds in mental addition and subtraction.	To apply what they know about other methods of addition and subtraction, such as the column method, when solving money problems.		
	identify, represent and estimate numbers using different representations	To continue to count in 2s, 3s, 5s, 10s.	To apply counting on strategies and counting in 5s when telling the time.		
	read and write numbers up to 1000 in numerals and in words	Knowledge of 4 and 8 times tables.	To apply what they know about number lines to time lines.		

## Why do we love holidays in the Mediterranean?

solve number problems and practical problems involving these ideas.	Knowledge of bar modelling		
To use multiples of 2, 3, 4, 5, 8, 10, 50 and 100.			
Pupils should be taught to:			
add and subtract numbers mentally			
add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction			
<b>Measurement</b>	Understand what mass is.	Accurately read weighing scales	Measuring
Measure, compare, add and subtract mass (kg/g) and volume/capacity (l/ml).	Know that 1kg = 100g	Accurately use/ read a measuring jug	Children consolidate previous learning on recognising different denominations (both notes and coins) and the simple addition and subtraction of money.
To add and subtract amounts of money to give change, using both £ and p in practical contexts.	Know that 1000ml = 1l	How to make different amounts with different coins.	Children further develop the concepts related to addition and subtraction of money using number bonds as a key method.
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	Use a measuring jug to measure volume	To be able to rename pence as pound when adding amounts of money.	That time can be told using 'a.m.' and 'p.m.', to the nearest minute, using analogue and digital time and telling time by using both the minute and hour hands.
to estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight	To know and recognise different denominations of money, both coins and notes.	To be able to 'find the difference' when subtracting amounts of money.	There are also other clocks such as 24-hour clock and clocks using roman numerals.
to know the number of seconds in a minute and the number of days in each month, year and leap year		How to work out amounts of change using subtraction methods.	Time can be measured and compared in seconds, hours and minutes.
to compare durations of events [for example to calculate the time taken by particular events or tasks].	How many pence is in a pound.	To apply what they already know about solving word problems to problems related to money.	Using a calendar, events can be measured in days.
		To tell the time using AM and PM on a digital and analogue clock.	Months have different number of days and leap years have an extra day.
	How to write an amount of money.		
		To be able to count on in 5s and then using 1 minute intervals to read the time to the nearest minute.	



		That pence can add up to pound.	To be able to apply their time reading skills to match analogue time to digital times.	
		That change is given when you pay for an item with a greater amount of money than it costs.	To be able to write and tell the time in 12 hour and 24 hour formats.	
		What AM and PM mean and how to write different times for morning and afternoon.	To read and tell the time using a clock with roman numerals.	
		What the different hands on an analogue clock tell you.	To use a stopwatch to measure and compare time in seconds.	
		To know what all the markings on a clock mean.	To use a clock and timeline to measure time in hours.	
		To understand vocabulary such as o'clock, half past, quarter to, quarter past, morning and afternoon, noon and night.	To work out what the time will be after a number of hours, and to be able to count backwards in hour intervals.	
		Roman numeral symbols up to 12.	To use interval counting and time lines to count the number of minutes in a duration of time.	
		There are 60 seconds in a minute, 60 minutes in an hour and 24 hours in a day.	To use a calendar to work out the number of days in a duration of time.	
		To be able to find the number of days in a month, year and leap year.		

## Summer Term 1

	<b>Number Recap</b>	To know the value of each digit in a 3 digit number.	Children use their knowledge of multiples of 2, 3, 4, 5, 8, 10, 50 and 100. They will use larger numbers to at least 1000.	Children become increasing fluent with the concepts of place value.	Concrete, pictorial, abstract, recapping vocabulary from Autumn. Data, axis, scale, graph, horizontal, vertical, pictogram, chart, bar chart, pie chart. Fraction, quantity, fraction of an amount, denominator, numerator, vinculum, equal, equivalent, multiple, factor, inverse, proper fraction, improper fraction, whole, half, quarter, third, fifth etc.
	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	To know the spellings of each number in numerals and words up to 1000.	They will practise the skill of using a variety of representations, including those related to measure.		

## Why was Ancient Egypt's civilization ahead of its time?

compare and order numbers up to 1000		They will use their knowledge of place value to apply to topics of fractions and statistics.	
read and write numbers up to 1000 in numerals and in words			
<b>Addition and subtraction Multiplication and division Recap</b>	To continue to build on their knowledge of number bonds and multiplication and division facts.	To apply addition and subtraction to questions related to fractions and statistics.	Children have the opportunity to become increasing fluent in the four operations and their knowledge of times tables.
to add and subtract numbers mentally recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables			
<b>Statistics</b>	What a picture graph is and what a bar graph is.	To transfer data from a tally chart to a picture graph and answer questions related to this data. .	How to create and interpret picture graphs and bar charts.
Pupils should be taught to:	The difference between a horizontal and vertical graph.	How to draw and complete a table.	
interpret and present data using bar charts, pictograms and tables	What a scale on a graph is.	How to draw and present data on a picture graph and bar chart.	
solve one-step and two-step questions [for example 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables		How to determine a scale on a graph or chart.	
Pupils understand and use simple scales (for example, 2, 5, 10 units per cm) in pictograms and bar charts with increasing accuracy.		How to use knowledge of graphs to solve problems.	
They continue to interpret data presented in many contexts.			
<b>Fractions</b>	That when a whole is divided equally by ten it becomes a tenth.	How to add fractions with the same denominator by using addition to add the numerator.	Children will learn about tenths, unit fractions and non unit fractions and will begin to understand equivalent fractions.
Pupils should be taught to:	That you can count in tenths from zero to one whole and how to count forwards and backwards in tenths.	How to subtract fractions with the same denominator by using subtraction of the numerators.	
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	That a fraction is represented by a denominator and a numerator and what this language means.	How to represent a fraction on a bar model.	

	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	How to read and write fractions.	How to represent fractions using concrete materials.	
	recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	A knowledge of simple equivalent fractions.	How to understand pictorial representations of fractions.	
	recognise and show, using diagrams, equivalent fractions with small denominators	That there is a pattern between multiplication and equivalent fractions.	To use a fraction diagram to determine whether fractions are equivalent or not.	
	add and subtract fractions with the same denominator within one whole [for example, $\frac{1}{2} + \frac{1}{2} = 1$ ]	That vocabulary such as "greater than" and "smaller than" (as well as the symbols $<$ $>$ $=$ ) can be used to compare fractions.	How to construct a number line with fractions.	
	compare and order unit fractions, and fractions with the same denominators	That 1 can be written as a fraction. This can help when subtracting fractions from 1 whole.	How to find equivalent fractions with manipulatives, pictures and multiplication. #	
	solve problems that involve all of the above	That finding fractions of a number can be seen as sharing or division, and how to write a division statement as a fraction.	How to use pictures and draw diagrams to find the simplest form of a fraction and equivalent fractions (including bar models and pie diagrams).	
		To know how to write a fraction that is larger than 1 whole.	How to use division to find the simplest form of a fraction.	
			How to look at the numerator when comparing fractions with the same denominator.	
		How to use manipulatives to find a fraction of a set.		

## Summer Term 2

	<b>Properties of shapes and Angles</b>	know what an angle is	to use an angle measurer (protractor) to measure angles,	Shape	Concrete, pictorial, abstract. See Fractions. Angle, obtuse, acute, straight line, diagonal, reflex, whole, greater, less than, turn, half turn, three quarter turn, vertices/vertex, edge, face, parallel, perpendicular, perimeter, area, shape, square, rectangle, triangle, pentagon, parallelogram.	
	recognise angles as a property of shape or a description of a turn	identify a right angle	draw lines using a ruler or protractor	Angles		
	identify right angles, recognise that 2 right angles make a half-turn, 3 make three quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle	identify parallel lines and perpendicular lines	identify different 2D and 3D shapes by description			
	identify horizontal and vertical lines and pairs of perpendicular	understand that 2 right angles make a half turn, 3 make $\frac{3}{4}$ and 4 make a complete turn	make 3D shapes using modelling materials			

<p style="text-align: center;"><b>How did the blossom become an apple?</b></p>	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	compare angles	identify parallel and perpendicular lines	
		know what a 2D and 3D shape is and describe the difference	identify horizontal and vertical lines	
		identify face, vertices, edges	how to measure the perimeter of a shape	
		know the difference between parallel and perpendicular lines		
		know the difference between horizontal and vertical lines		
		understand the word perimeter		
	<b>Fractions</b>	fractions can be used to find part of a set of items	how to calculate a part of a set of items	Fractions
	recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	fractions can be used to calculate a part of a number	how to calculate a part of a number	
	solve problems that involve fractions	fractions can be used to share more than 1	how to share more than 1	

Year 4	National Curriculum PoS	Knowledge	Skills	Concepts	Vocabulary
<b>Autumn Term 1</b>					
<b>Ancient Greeks</b>	Number & Place Value	Know that objects can be grouped and counted in multiples of 6,7,9,25 and 100 both forwards and backwards and in any sequence	Counting in multiples of 6,7,9,25 and 100 backwards and forwards, spotting patterns within a sequence	Numbers up to 1000	Place value, digit, sequence, order, value, compare, numeral, number, Manipulatives, base 10, representation, place value counters, strategy, counting, groups, grouping partition, negative numbers, place value chart, addition, subtraction, renaming, estimate, rounding, multiples, method
	count in multiples of 6, 7, 9, 25 and 1,000	Knowing how to add and subtract 1000 from a given number	Using a number line / counting stick to make count in 6,7,9,25 and 100	Place Value	
	find 1,000 more or less than a given number	Know the meaning of 'more' and 'less' in the context of counting forwards and backwards	Using mental strategies and place value knowledge to add and subtract 1000 from each number	Addition, Subtraction	
	count backwards through 0 to include negative numbers	Know what a negative number is and when they might be used in a real life context (e.g. temperature)	Using correct vocabulary to show counting forwards and backwards	Rounding	
	recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s and 1s)	Know how to count backwards through 0 to include negative numbers	Recognising and reading any four-digit number	Estimating	
	Order and compare numbers beyond 1,000	Know the difference between 'digit', and 'number'	Reason and explain about the place value of any 4 digit number and apply understanding to solving problems	Negative Numbers	
	identify, represent and estimate numbers using different representations	Understand the place value of a four-digit number and able to visualise and conceptually explain in a real life context	Using greater than, less than and equal to symbols to order and compare numbers beyond 1000		
	round any number to the nearest 10, 100 or 1,000	Understand the order of numbers beyond 1000 using place value knowledge	Placing numbers on a number line in a linear fashion		
	solve number and practical problems that involve all of the above and with increasingly large positive numbers	Understand the meaning of key vocabulary for comparison; greater than, less than, equal to	Able to construct, demonstrate and explain numbers constructed in a range of ways, i.e. through the use of manipulatives and physical resources and abstract representations		

	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	Know how to use manipulatives to show and represent numbers in various ways	Applying place value knowledge to use rounding rules to round up and down to the nearest 10, 100 or 1000	
	estimate and use inverse operations to check answers to a calculation	Understand in context, the meaning of rounding to the nearest 10, 100 or 1000	Explaining when rounding is used in real life contexts i.e. in the context of money	
	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	A good grasp on the need for rounding and the rule for rounding	Apply methods and approaches to problem solving	
		Know and understand a range of problem solving strategies explored in class	Adding and subtracting numbers with up to 4 digits using formal written methods	
		Know a range of strategies that can be used to add and subtract:	Using manipulatives to aid in addition and subtraction using formal and mental methods	
		- Mental maths	Solving addition and subtraction word problems in context and explaining reasoning	
		- Column	Column	
		- Number line	Number line	
		- Number facts and bonds	Number facts and bonds	
	Know which manipulatives can be used to aid place value, addition and subtraction			

## Autumn Term 2

	recall multiplication and division facts for multiplication tables up to $12 \times 12$	Know and understand multiplication facts for 11, 12 and 9 times tables.	Recalling multiplication facts for 11, 12 and 9 times tables using a range of strategies, helped with models and images	Multiplication	multiplication, division, multiply, divide, multiply, divide, part-part-whole, partition, product, divisor, commutative, multiplicand, multiple
	use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers	Know and understand division facts for 6,7 and 9s.	Applying multiplication fact knowledge to using the expanded method for multiplication	Division	
	recognise and use factor pairs and commutativity in mental calculations	Know and understand the relationship between multiplying by 11 and 12.	Grouping objects, models and images practically when exploring multiplication and division		

**What are the main features of the UK?**

multiply two-digit and three-digit numbers by a one-digit number using formal written layout	Know and understand how to divide with a remainder.	Noting similarities and differences in multiplication and division and thinking about how the two are related	
solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	Know and explore how to divide with a remainder further through models and images for increasingly difficult numbers.	Using subject specific vocabulary and explaining through reasoning a deeper understanding of the concepts taught	
	Know how to solve word problems involving multiplication and division.	Building on prior knowledge of 10x tables to help work out how to multiply and divide by 10, 100 and 1000	
	Know and understand the difference between multiplying and dividing by 0 and 1	Using formal written method for multiplication and division effectively	
	Understand the small steps needed to divide by 10, 100 and 1000	Solving problems involving multiplication and division using a range of strategies	
	Know and understand how to multiply the same two numbers	Understanding the relationship between multiplication and division	
	Know and understand how to multiply the same three numbers	Speaking confidently about the law of commutativity and when it applies to the lesson	
	Know and understand how to use the expanded column method to multiply numbers	Using inverse of operations to check one's own work	
	Know and understand how using a part, part whole model can help with partitioning to multiply		
	Know and understand how to find multiples of 1000		
	Know how to use the formal written method for dividing 2-digit numbers		
	Know how to use the formal written method for dividing 3-digit numbers		

**Spring Term 1**

**What happens to the food we eat?**

recall multiplication and division facts for multiplication tables up to 12 x 12	Know and understand multiplication facts for 11, 12 and 9 times tables.	Recalling multiplication facts for 11, 12 and 9 times tables using a range of strategies, helped with models and images	Multiplication	multiplication, division, multiply, divide, part-part-whole, partition, product, divisor, commutative, multiplicand, multiple, groups of, lots of, share, column method, divided by, multiplied by, repeated addition, repeated subtraction, remainder
solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	Know and understand division facts for 6,7 and 9s.	Using formal written method for multiplication and division effectively	Division	
multiply two-digit and three-digit numbers by a one-digit number using formal written layout	Know how to solve word problems involving multiplication and division.	Solving problems involving multiplication and division using a range of strategies	Graphs / Statistics	
interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs		Understanding the relationship between multiplication and division	Fractions	
solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Know and understand how to use the formal expanded method for multiplication and formal short division method for dividing	Using inverse of operations to check one's own work		
recognise and show, using diagrams, families of common equivalent fractions	Know and understand how to interpret and present discrete and continuous data	Interpreting picture graphs and bar graphs and noting relevant data including trends		
count up and down in hundredths; recognise that hundredths arise when dividing an object by a 100 and dividing tenths by 10.	Understand the difference between varying types of graphs including bar charts and line graphs over time	Analysing line graphs and considering how they are used to measure change over time		
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	Understand how to solve problems using data presented in bar charts, pictograms, tables and other graphs	Interpreting line graphs and using information collected to draw line graphs		
add and subtract fractions with the same denominator	Know and understand the subject specific vocabulary included in fractions unit	Making predictions based on trends identified in data		
	Know how to count up and down in hundredths	Drawing and reading picture graphs and bar graphs		
	Know that hundredths come from dividing by 100 and dividing tenths by 10	Identifying, recognising and counting in hundredths		



		Know how to solve problems involving fractions including calculating fractions of amounts and dividing fractions with whole numbers	Comparing and noting difference between mixed number fractions and improper fractions		
		Know how to add and subtract unit fractions	Converting between mixed numbers and improper fractions		
		Know and understand how to recognise and write decimal equivalents of tenths and hundredths	Adding and subtracting fractions including solving word problems involving addition and subtraction		
		Understand and represent decimal equivalents of $\frac{1}{2}$ , $\frac{1}{4}$ and $\frac{3}{4}$	Writing mixed numbers and showing them on a number line		
			Finding equivalent fractions		
			Simplifying mixed numbers		
			Simplifying improper fractions		
			Identifying decimal equivalents of tenths and hundredths		
		Identifying and recognising decimal equivalents of $\frac{1}{2}$ , $\frac{1}{4}$ and $\frac{3}{4}$			

## Spring Term 2

	<b>Number</b>	Know and recognise decimal equivalents of any number of tenths and hundredths	Recognising decimal equivalents of any number of tenths and hundredths	Decimals	time, AM, PM, 24-hour, O'clock, Half past, Quarter Past. Analogue, Digital, decimals, hundredths, tenths, equivalent, dividing by 10, dividing by 100, rounding
	<b>Decimals</b>	Understand how to write decimal equivalents of any number of tenths and hundredths	Writing decimal equivalents of any number of tenths and hundredths	Fractions	
	recognise and write decimal equivalents of any number of tenths or hundredths	Know the decimal equivalents to $\frac{1}{4}$ , $\frac{1}{2}$ and $\frac{3}{4}$	Recognising and finding decimal equivalents to $\frac{1}{4}$ , $\frac{3}{4}$ and $\frac{1}{2}$	Equivalents	
	recognise and write decimal equivalents to $\frac{1}{4}$ ; $\frac{1}{2}$ ; $\frac{3}{4}$	Know how to divide a 1 or 2-digit number by 10 and 100 and understand the value of the digits in the answers up to tenths and hundredths	Dividing a 1 or 2-digit number by 10 and 100 and recognising the value of the digits in the answers as tenths and hundredths	Division	
	Ma4/2.4g find the effect of dividing a one or two-digit number by	Know how to round decimals with 1 decimal place to the nearest whole number	Rounding decimals with 1 decimal places to the nearest whole number using the rules for rounding. Applying the knowledge of rounding from Number topic	Money	

**What are the main differences about living in the UK and Spain?**

10 and 100, identifying the value of the digits in the answer as ones,	Understand when rounding decimals would be used in a real life context and know how to solve real life problems involving rounding decimals	Using rounding to solve problems involving decimals in a real life context	Rounding
tenths and hundredths	Know how to compare decimals with numbers with up to 2 decimal places	Comparing decimals with up to 2 decimal places and using the greater than and less than symbol to show the difference	
round decimals with 1 decimal place to the nearest whole number		Solving problems involving money, fractions and decimals by applying knowledge of the four operations	
compare numbers with the same number of decimal	Understand the rules for comparison of numbers including the use of the greater than and less than symbol		
places up to 2 decimal places	Know and understand how to solve simple money problems involving fractions and decimals and choose the appropriate calculation necessary by applying knowledge of four operations		
solve simple measure and money problems involving fractions and decimals to 2 decimal places.			
<b>Measurement:</b>	Know and understand how to read, write and convert time between analogue and digital 12 and 24-hour clocks.	Reading analogue and digital 12 and 24-hour clocks	Time
<b>Time</b>	Know the difference between analogue and digital 24-hour clocks.	Writing the time in analogue and digital 12 and 24-hours	Units of measurement
read, write and convert time between analogue and digital 12 and 24-hour clocks	Know how to solve problems involving conversion, including the rules needed to convert from hours to minutes, minutes to seconds, years to months and weeks to days.	Converting between analogue and digital 12 and 24-hour time	Conversion

	solve problems involving	Know the varying units of measurement for time including all mentioned measurements.	Solving problems and applying problem solving skills when converting between different formats of time		
	converting from hours to minutes, minutes to seconds, years to		Applying the rules for conversion between hours and minutes, minutes and seconds, years and months and weeks and days.		
	months, weeks to days		Applying knowledge of time to real life settings and explaining the need for analogue and digital 12 and 24-hour clocks based on real life situation.		
	add and subtract fractions with the same denominator		Adding and subtracting fractions including solving word problems involving addition and subtraction		
			Simplifying mixed numbers		

### Summer Term 1

<b>How did Britain</b>	<b>Number</b>	Know how to round decimals with 1 decimal place to the nearest whole number	Recognising and finding decimal equivalents to $\frac{1}{4}$ , $\frac{3}{4}$ and $\frac{1}{2}$	Decimals	multiplication by 10, 100 and 1000 in the context of metric units, convert from larger to smaller units: kg to g; m to cm, m to mm and l to ml.
	recognise and write decimal equivalents to $\frac{1}{4}$ ; $\frac{1}{2}$ ; $\frac{3}{4}$	Understand when rounding decimals would be used in a real life context and know how to solve real life problems involving rounding decimals	Rounding decimals with 1 decimal places to the nearest whole number using the rules for rounding. Applying the knowledge of rounding from Number topic	Fractions	
	find the effect of dividing a one or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	Know how to divide a 1 or 2-digit number by 10 and 100 and understand the value of the digits in the answers up to tenths and hundredths	Using rounding to solve problems involving decimals in a real life context	Equivalents	
	Round decimals with 1 decimal place to the nearest whole number	Know and understand how to solve simple money problems involving fractions and decimals and choose the appropriate calculation necessary by applying knowledge of four operations	Comparing decimals with up to 2 decimal places and using the greater than and less than symbol to show the difference	Division	

<b>change between the end of the Iron Age and the end of the Roman occupation?</b>			Dividing a 1 or 2-digit number by 10 and 100 and recognising the value of the digits in the answers as tenths and hundredths	Money	
			Solving problems involving money, fractions and decimals by applying knowledge of the four operations	Rounding	
	<b>Measurement</b>	Know the how to solve simple measure and money problems using the appropriate methods for calculation	Solving simple money and measure problems and using appropriate methods for calculation	Mass	
	solve simple measure and money problems involving fractions and decimals to 2 decimal places.	Know how to estimate, compare and calculate different measures	Estimating, comparing and rounding to calculate measure	Volume	
	estimate, compare and calculate different measures, including money in pounds and pence Mass, Volume & Length	Understand how to estimate amounts of money in pounds and pence and know how to round to the nearest pounds and pence	Rounding to the nearest pounds and pence, applying knowledge of decimal place value	Length	
	convert between different units of measure	Know and apply knowledge of place value of tenths and hundredths to rounding money	Converting between different units of measure	Rounding / Estimating	
	Know how to convert between different units of measure		Place Value		

## Summer Term 2

<b>How can I make a functional</b>	<b>Geometry</b>	Know how to measure and calculate the perimeter of a rectilinear figure in centimetres and meters	Calculating the perimeter and area of rectilinear figures	Area	Area, Perimeter, Rectilinear, Squares, Centimetre, Meter, Angles, Acute, Obtuse, Right angle, Triangle, Degrees, Equilateral, Isosceles, Right-angles triangle, Quadrilateral, Position, Polygon
	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Know the difference between units of measurement, i.e. centimetres, meters, kms	Applying knowledge of multiplying by 10, 100 and 1000 in conversions of units	Perimeter	
	find the area of rectilinear shapes by counting squares	Know how to find the area of a rectangle by counting squares			
	Mcompare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	Know how to apply knowledge of multiplying by 10, 100 and 1000 in the to convert from larger to smaller units of measurement			

<b>electronic torch?</b>	identify acute and obtuse angles and compare and order angles up to 2 right angles by size				
	identify lines of symmetry in 2-D shapes presented in different orientations				
	complete a simple symmetric figure with respect to a specific line of symmetry.				
	describe positions on a 2-D grid as coordinates in the first quadrant				
	describe movements between positions as translations of a given unit to the left/right and up/down				
	plot specified points and draw sides to complete a given polygon				

Year 5	National Curriculum PoS	Knowledge	Skills	Concepts	Vocabulary
<b>Autumn Term 1</b>					
<b>How is a river formed</b>	Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	Know the value of digits in numbers up to 1 million	Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	A digit's value is determined by its Place Value.	Place Value Roman Numerals Negative Number Addition Subtraction Round Column
	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	Know the difference between 'digit' and 'number'	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	Roman Numerals can be used to represent numbers.	
	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0	Know what is meant by 'powers of 10'	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0	Negative numbers can be used to represent values less than zero.	
	Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000	Know what a negative number is and when they might be used in a real life context (e.g. temperature)	Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000	Column Addition	
	Solve number problems and practical problems that involve all of the above	Know what rounding is and when it might be used	Solve number problems and practical problems that involve all of the above	Column Subtraction	
	Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	Know a variety of ways to solve problems	Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	Rounding numbers to nearest 10,100,1000.	
	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	Build Mathematical vocabulary for reasoning and problem solving (know what D.A.B stands for)	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)		
	Add and subtract numbers mentally with increasingly large numbers	Know what Roman numerals are and how we represent numbers using them	Add and subtract numbers mentally with increasingly large numbers		
	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Know a range of strategies that can be used to add and subtract:	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy		
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why		Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why			

--	--	--	--	--	--

<b>Autumn Term 2</b>
----------------------

	<p>identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers</p>	<p>Practise and extend their use of the formal written methods of short multiplication and short division. They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations.</p>	<p>Apply the multiplication tables and relevant division facts to make larger calculations.</p>	<p>Multiplication tables and division facts can be used to solve larger problems.</p>	<p>Multiplication and division multiple factor square number cube number prime number perimeter area composite</p>
	<p>know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</p>	<p>Know multiplication and division as inverses to support the introduction of ratio in year 6.</p>	<p>Use and understand the terms factor, multiple and prime, square and cube numbers.</p>	<p>A factor is a number that divides exactly into a larger number. A multiple is a number in a particular times table. A prime number only has 2 factors(itself and 1). A square number is a number multiplied by itself. A cube number is a number multiplied by itself and itself again.</p>	
	<p>establish whether a number up to 100 is prime and recall prime numbers up to 19</p>	<p>Understand the terms factor, multiple and prime, square and cube numbers and use them to construct equivalence statements (for example, <math>4 \times 35 = 2 \times 2 \times 35</math>; <math>3 \times 270 = 3 \times 3 \times 9 \times 10 = 9^2 \times 10</math>).</p>	<p>Interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding (for example, <math>98 \div 4 = 24 \text{ r } 2 = 24 = 24.5 \approx 25</math>).</p>		

**How did Britain change between the end of the Roman occupation and 1066?**

multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	Understand which representation of data is the most effective.	Use and explain the equals sign to indicate equivalence, including in missing number problems (for example $13 + 24 = 12 + 25$ ; $33 = 5 \times ?$ ).	
multiply and divide numbers mentally, drawing upon known facts	Connect work on coordinates and scales to interpretations of time graphs.		
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	Know how to calculate the perimeter of shapes.		
multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000	Understand how to find unknown lengths.		
recognise and use square numbers and cube numbers, and the notation for squared ( $^2$ ) and cubed ( $^3$ )			
solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes			
solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign			
solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates			
Solve comparison, sum and difference problems using information presented in a line graph			
Complete, read and interpret information in tables, including timetables			
Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres			
Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres ( $\text{cm}^2$ ) and square metres ( $\text{m}^2$ ), and estimate the area of irregular shapes			



## Spring Term 1

<p><b>How can I create a watermill system?</b></p>	Multiply and divide numbers mentally drawing upon known facts.	know how to use 0 as a place holder	Use a formal written method to multiply larger numbers (column and grid).	Larger Multiplication and division problems can be solved using formal written methods.	formal column grid fraction denominator numerator tenth hundredth equivalent mixed number improper fractions
	Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2-digit numbers.	Know it's important to set out numbers in columns to multiply	Multiply a 4 digits number by a 1 digit number	Equivalent Fractions	
	Divide numbers up to 4 digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context.	Know how to partition numbers to multiply	Multiply 2 digits by 2 digits	Mixed numbers	
	Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign	Know the value each digit represents in a calculation	Multiply 3 digits by 2 digits	Improper fractions	
	Compare and order fractions whose denominators are multiples of the same number.	Know when to exchange digits	Multiply 4 digits by 2 digits		
	Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.	Know how to represent multiplication using base ten, place value counters and grid method	Multiply 4 digits by 3 digits		
	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements $>1$ as a mixed number [for example $\frac{7}{5}, + \frac{1}{5}, = \frac{6}{5}, = 1 \frac{1}{5},$ ]	Know why a larger numbers is written above a smaller one for multiplication	Use a formal written method to divide numbers (short division).		
	Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	Know how to use place value to partition numbers and then group to develop	Divide 4 digits by 1 digit		
		Know that fractions need to have the same denominator before adding	Divide numbers with remainders		
		Know how to represent fractions in their simplest form	Solve words problems which require a formal multiplication or division calculation and explain reasoning		
		Understand what remainders represent in context and know whether to round a remainder up or down.	Use multiplication and division facts to find equivalent fractions.		

		Know what is meant by an equivalent fraction and give examples	Visually represent a mixed number and an improper fractions	
		Know what is the same and what is different about the numerators and denominators in the equivalent fractions.	Use multiplication and division facts to convert improper fractions to a mixed number and a mixed number to an improper fraction	
		Know what a mixed number and an improper fraction is.	Find intervals in fraction sequences, converting mixed numbers and improper fractions where necessary	
		Know how to count up and down in a given fraction	Find a common denominator or a common numerator using multiplication and division facts	
		Know how to count up and down in a given fraction	Draw pictorial diagrams to add and compare fractions	
		Compare and order fractions less than 1 where the denominators are multiples of the same number.	Find a common denominator or a common numerator using multiplication and division facts	
		Know how to compare and order fractions greater than 1	Draw pictorial diagrams to add and compare fractions	
		Know how to compare and order fractions greater than 1	Draw pictorial diagrams to add and compare fractions	

## Spring Term 2

<b>Will we ever send another human to the moon?</b>	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Know strategies to multiply fractions	Multiply proper fractions & mixed numbers by whole numbers	Understand what a decimal number is	decimal percentage proportion
	read and write decimal numbers as fractions [for example, $0.71 = 71/100$ ]	Know and recognise thousandths	Read, write, order & compare numbers with up to three d.p.	Understand what a percentage is	
	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	Recognise the percent symbol (%)	Round decimals with two decimal places to the nearest whole number & to one d.p	Understand percentages are fraction of 100	
	round decimals with 2 decimal places to the nearest whole number and to 1 decimal place	Know FDP equivalents.	Solve problems involving numbers up to three d.p.	Understand what the % symbol stands for	
	read, write, order and compare numbers with up to 3 decimal places		Solve problems which require knowing percentage & decimal equivalents	Fractions, decimals and percentages are different ways of expressing proportions.	
	solve problems involving number up to 3 decimal places		Show links between fractions, decimals and percentages	Use visuals and concrete resources to represent fractions, decimals and percentages	

	recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction				
	solve problems which require knowing percentage and decimal equivalents of				
	1/2 , 1/4 , 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25				

## Summer Term 1

<b>Why should the rainforests be important to us all?</b>	-read and write decimal numbers as fractions [for example, 0.71 = ]	Understand that fractions, decimals and percentages link to one another	Convert decimals into fractions and percentages	Values can be represented by Fractions or Decimals	Fraction Decmal Percentage
	-recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	Know that percentages, decimals and fractions can be equivalent	Use manipulatives to represent thousandths, hundredths and tenths	Percentages relates to number of parts per hundred.	
	-round decimals with 2 decimal places to the nearest whole number and to 1 decimal place	Understand that a range of resources can be used to represent decimals, percentages and fractions (numberlines, counters, PV grids etc).	Round decimals	Identify equivalent fractions, decimals and percentages.	
	-read, write, order and compare numbers with up to 3 decimal places	Know what 'crossing the boundary or whole' means	Order and compare decimal numbers		
	-solve problems involving number up to 3 decimal places		Add decimals within 1		
	-recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction		Subtract fractions within 1		
	-solve problems which require knowing percentage and decimal equivalents of , , , , and those fractions with a denominator of a multiple of 10 or 25		Add and subtract fractions with the same decimal place		
			Add and subtract fractions with a different decimal place		
			Order/sequence decimals and percentages		
			Multiply and divide fractions by 10, 100 and 1000		
		Order/sequence decimals and percentages			
		Order/sequence decimals and percentages			

Multiply and divide fractions by 10, 100 and 1000

## Summer Term 2

<h3>Why were the Mayans the envy of the world?</h3>	Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.	Choose the correct calculation to use based on the language in a question	Can convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Measure and draw angles accurately using a protractor	<p>Addition, Subtraction, Multiplication, Division, Metric and imperial units of measurement, Volume, Time, 2D/3D shape, Translation, Coordinates, Symmetry, Angles</p>
	Convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Know when to use manipulatives to support their own learning	Can multiply and divide by 10/100/1000 using decimal place values	Measure and draw lines to the nearest mm using a ruler	
	Understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	Understand equivalences between metric units and common imperial units such as inches, pounds and pints.	Use equivalences between metric units and common imperial units such as inches, pounds and pints.	Identify and mark parallel and diagonal lines correctly	
	Estimate volume (e.g. using 1 cm <sup>3</sup> blocks to build cubes and cuboids) and capacity (e.g. using water)	Understand why we have different units of measurement	Estimate volume (e.g. using 1 cm <sup>3</sup> blocks to build cubes and cuboids) and capacity (e.g. using water)	Read the x then the y axis when identifying and marking points on a grid	
	Solve problems involving converting between units of time	Understand the difference between volume and capacity	Convert units of time from digital and analogue clocks and timetables	Use a mirror to reflect shapes using a line of symmetry	
	Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.	Understand that estimate is a calculated judgement of value	Confidently apply written methods for all four operations to calculate answers to measurement problems		
	Identify 3D shapes, including cubes and other cuboids, from 2D representations.	Know the digital and analogue units of time including (12 and 24 hours)			
	Use the properties of rectangles to deduce related facts and find missing lengths and angles.	Know that lines can be described as diagonal and parallel and identify these on 2D and 3D shapes			
		Know that a right angle is 90 degrees, a straight line is 180 degrees and a full circle is 360 degrees.			
	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Know that a right angle is 90 degrees, a straight line is 180 degrees and a full circle is 360 degrees.			
	Know angles are measured in	an acute angle is between 0 and 90 degrees			

	degrees: estimate and compare	an obtuse angle is between 90 and 180 degrees			
	acute, obtuse and reflex angles.	a reflex angle is between 180 and a full circle			
	Draw given angles, and measure them in degrees.	Know how coordinates are written in a grid form and used to identify specific points on a grid			
	Identify: 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	Can correctly identify the x and y axis			
	Identify, describe and	Know that a line of symmetry is the reflection or mirror line			
	represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	Can correctly identify the x and y axis			
		Know that a line of symmetry is the reflection or mirror line			

Year 6	National Curriculum PoS	Knowledge	Skills	Concepts	Vocabulary
<b>Autumn Term 1</b>					
	Count forwards or backwards in steps of integers, decimals, powers of 10	Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1.	use the relationship between powers of 10 to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).	Number and place value	Place value, digit, sequence, order, value, compare, numeral, integers, representation, place value counters, strategy, partition, negative numbers, place value chart, power of 10, exchange, Roman numerals, estimate, rounding, multiples, approximate
	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit	Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01.	compose and decompose numbers up to 10 million using standard and non-standard partitioning.	Addition, multiplication, Subtraction and Division	
	Identify, represent and estimate numbers using the number line	Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.	Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.		
	Order and compare numbers including integers, decimals and negative numbers	Understand the relationship between powers of 10 from 1 hundredth to 10 million	Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.		
	Round any whole number to a required degree of accuracy	place value of each digit in numbers up to 10 million, including decimal fractions	Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.		
	Use negative numbers in context, and calculate intervals across zero	All multiplication table (up to 12) facts, and corresponding division facts	use negative numbers in context, and calculate intervals across zero		
	Describe and extend number sequences including those with multiplication and division steps, inconsistent steps, alternating steps and those where the step size is a decimal	Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships			

**What impact did World War 1 and World War 2 have on people?**

Solve number and practical problems that involve all of the above	Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.		
Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)			
Select a mental strategy appropriate for the numbers in the calculation			
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).	Children use the formal column method for numbers with the same and different numbers of digits. They also practise mental strategies with both large and small numbers, using their understanding of place value.	
Solve problems involving addition, subtraction, multiplication and division		Children solve multi-step problems, choosing which operations and methods to use based on the context of the problem and the types of numbers involved.	
Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy			
Identify common factors, common multiples and prime numbers			
Multiply multi-digit numbers up to four digits by a 2-digit whole number using the formal written method of long multiplication			
Perform mental calculations, including with mixed operations and large numbers			
Divide numbers up to four digits by a 2-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context			

	Divide numbers up to four digits by a 2-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				

## Autumn Term 2

<b>How does the Earth recycle water?</b>	Compare and order fractions, including fractions $> 1$ (including on a numberline)	Identifying the highest common factor and building on knowledge of equivalent fractions	Recognise when fractions are not in their simplest form. They should use their understanding of common factors to simplify fractions.	Fractions	Denominator, division, numerator, multiple, factor, equivalent, simplify, equal groups, proper, unitary, improper, axes, four quadrants, position, direction, translation, reflections
	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Understand that equivalent fractions have the same value and the same position in the linear number system.	Divide the numerator and denominator by the highest common factor to express a fraction in its simplest form	Multiples	
	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	Pupils should learn that when the numerator and denominator of a fraction have no common factors (other than 1) then the fraction is in its simplest form.	When given 2 fractions pupils can express them with the same denominator.	Factors	
		Pupils should learn that a fraction can be simplified by dividing both the numerator and denominator by a common factor. They must realise that simplifying a fraction does not change its value, and the simplified fraction has the same position in the linear number system as the original fraction.	Apply what they already know about writing equivalent fractions to express the fractions in a common denomination	Addition, Subtraction, multiplication and Division	
	Associate a fraction with division and calculate decimal fraction equivalents	Knowledge of negative numbers	Find a common multiple of the denominators by multiplying the 2 denominators is sufficient.	Position and direction	
	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	How to translate a shape across four quadrants	Work with pairs of fractions where one denominator is not a multiple of the other	2D shapes	
		How to reflect in all four quadrants	Compare and order fractions	Negative numbers	



	Multiply simple pairs of proper fractions, writing the answer in its simplest form	Understanding about where coordinates lie across all four quadrants	Plot within four axes	
	Divide proper fractions by whole numbers	Understanding about the length of a line using the coordinates of its endpoints	Draw a 2D shape with given coordinates	
	Describe positions on the full coordinate grid (all four quadrants)	Coordinates knowledge to reflect shapes correctly	Estimate where coordinates will be: which quadrant	
	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	Compare/classify geometric shapes based on the properties and sizes	Calculate difference between negative and positive coordinates	
		Draw 2-D shapes using given dimensions and angles from the coordinate plane	Use directional language and instructions to translate a shape	

### Spring Term 1

	Count forwards or backwards in steps of integers, decimals, powers of 10	Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000)	Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.	Fractions, Decimals and Percentages	Equivalence, tenths, hundredths, thousandths, fraction, decimal, multiply and divide, denominator, number line, equal parts Imperial, metric, measurements, side lengths, distance, capacity, weight, ratio, scale factor
	Identify the value of each digit to three decimal places	Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.	round numbers in preparation for key stage 3,	Ratio and Proportion	
	Order and compare numbers including integers, decimals and negative numbers	Learn that numbers are rounded for the purpose of eliminating an unnecessary level of detail. They must understand that rounding is a method of approximating, and that rounded numbers can be used to give estimated values including estimated answers to calculations.	Consolidate rounding decimal fractions to the nearest whole number or multiple of 0.1.	Measurement (converting units): metric and imperial measures	

## What is Evolution?

Find 0.001, 0.01, 0.1, 1, 10 and powers of 10 more/less than a given number	How to divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.	Make connections between powers of 10, for example, describing similarities and differences between the values of the parts when 1 million, 1,000 and 1 are divided into 4 equal parts.	
Round decimals with three decimal places to the nearest whole number or one or two decimal places	Children are taught how to enlarge shapes to make them 2 or 3 times as big etc. They need to be introduced to the term "scale factor" as the name for this process.	Order positive and negative integers, decimals, and fractions; use the number line as a model for ordering of the real numbers; use the symbols =, ≠, <, >, ≤, ≥	
Recall and use equivalences between simple fractions, decimals and	They need to be taught that 'similar' in mathematics means that one shape is an exact enlargement of the other, not just they have some common properties.	Draw models to help them solve certain types of problem	
percentages, including in different contexts	Children read, write and recognise all metric measures for length, mass and capacity. They may need to be reminded the difference between capacity (the amount an object can contain) and volume (the amount actually in an object).	Children can draw 2-D shapes on a grid to a given scale factor and be able to use vocabulary, such as, "Shape A is three times as big as shape B".	
	Convert in both directions e.g. m to cm and cm to m. Using metre sticks and other scales will support this step. They will need to understand the role of zero as a place holder when performing some calculations, as questions will involve varied numbers of decimal places.	Children find scale factors when given similar shapes.	
Associate a fraction with division and calculate decimal fraction equivalents	Use of pictorial representations, such as bar models, to represent the problem and help them decide which operation to use.	Children use multiplication and division facts to calculate missing information and scale factors.	

	Find simple percentages of amounts	need to know that 5 miles is approximately equal to	Children will apply the skills they have learnt in the previous steps to a wide range of problems in different contexts. They may need support to see that different situations are in fact alternative uses of ratio.		
	Solve problems which require answers to be rounded to specified degrees of accuracy	8 km. They should use this fact to find approximate conversions from miles to km and from km to miles.  They should be taught the meaning of the symbol '≈' as "is approximately equal to".	Children develop their estimation skills in context and decide when it is appropriate to use different metric units of measure.  Skills of multiplying and dividing by 10, 100 and 1,000 when converting between units of length, mass and capacity.		
	Solve problems involving the calculation of percentages	Children need to know and use the following facts:	Use and apply their conversion skills to solve		
	Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication/division facts	• 1 foot is equal to 12 inches	measurement problems in context.		
	Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples	• 1 pound is equal to 16 ounces	Perform related conversions, both within imperial measures and between imperial and metric.		
	Solve problems involving similar shapes where the scale factor is known or can be found	• 1 stone is equal to 14 pounds			
	Use, read and write standard units of length, mass, volume and time using decimal notation to three decimal places	• 1 gallon is equal to 8 pints			
	Convert between standard units of length, mass, volume and time using decimal notation to three decimal places	• 1 inch is approximately 2.5 cm			
	Convert between miles and kilometres				
	<b>Spring Term 2</b>				
	Recognise that shapes with the same areas can have different perimeters and vice versa	conceptual understanding of the	Find and draw rectilinear shapes that have the same area.	Perimeter, Area and Volume	area, rectilinear, triangle angles, vertically opposite, quadrilateral, volume, area, perimeter,

**How can I find my way around?**

Calculate the area of parallelograms and triangles	formula for area by linking this to counting squares. Writing and using the formulae for area and perimeter is a good opportunity to link back to the algebra block.	Children will need to physically annotate to avoid repetition when counting the squares.	Statistics
Recognise when it is possible to use formulae for area and volume of shapes	Children explore that shapes with the same area can have the same or different perimeters.	Children will begin to see the link between the area of a triangle and the area of a rectangle or square.	
Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm <sup>3</sup> ) and cubic metres (m <sup>3</sup> ), and extending to other units (e.g. mm <sup>3</sup> and km <sup>3</sup> )	use their previous knowledge of approximating and estimating to work out the area of different triangles by counting.	Use the formula, base $\times$ perpendicular height $\div 2$ to calculate the area of a variety of triangles where different side lengths are given and where more than one triangle make up a shape.	
Calculate differences in temperature, including those that	use their knowledge of finding the area of a rectangle to find the area of a right-angled triangle. They see that a right-angled triangle with the same length and perpendicular height as a rectangle will have an area half the size.	Investigate the link between the area of a rectangle and parallelogram by cutting a parallelogram so that it can be rearranged into a rectangle. This will help them understand why the formula to find the area of parallelograms works.	
involved a positive and negative temperature	Using the link between the area of a rectangle and a triangle, children will learn and use the formula to calculate the area of a triangle.	Counting cubic units (1 cm <sup>3</sup> ) to find the volume of 3D shapes. They will then use cubes to build their own models and describe the volume of the models they make.	
Continue to complete and interpret information in a variety of sorting diagrams	Use their knowledge of finding the area of a rectangle to find the area of a parallelogram.	Make the link between counting cubes and the formula ( $l \times w \times h$ ) for calculating the volume of cuboids. $l \quad w \quad h$	
Interpret and construct pie charts and line graphs and use these to solve problems	Understand that volume is the amount of solid space something takes up. They look at how volume is different to capacity, as capacity is related to the amount a container can hold.	They realise that the formula is the same as calculating the	

	Solve comparison, sum and difference problems using information presented by all different types of graph	understand that volume is the space occupied by a 3-D object.	area of the base and multiplying this by the height.	
	Calculate and interpret the mean as an average	Children will build on their experience of interpreting data in context from Year 5, using their knowledge of scales to read information accurately.	Applying knowledge about data across the curriculum	
		Children will build on their experience of reading and interpreting data in order to draw their own line graphs.	Read data accurately, including more than one set of data on one graph	
		They need to be exposed to graphs that show more than one set of data. At this point, children should be secure with the terms x and y axis, frequency and data	Children read information accurately, including where more than one set of data is on the same graph	
		Learn how to find the mean by sharing equally or using the formula: $\text{Mean} = \text{Total} \div \text{number of items}$ . Once children understand how to calculate the mean of a simple set of data, allow children time to investigate missing data when given the mean.	Children decide on the most appropriate scales and intervals to use depending on the data they are representing.	
			Once children can read, they will interpret and draw lines graphs they need to be able to use line graphs to solve problems. Children need to use their knowledge of scales to read information accurately. They need to be exposed to graphs that show more than one set of data.	
			Children will apply their addition and division skills to calculate the mean average in a variety of contexts	

**Summer Term 1**

	Draw 2-D shapes using given dimensions and angles	They will explore the relationship between the radius and the diameter and recognise the diameter is twice the length of the radius.	Children will illustrate and name parts of circles, using the words radius, diameter, centre and circumference confidently.	Geometry- properties of shapes	angles, vertically opposite, quadrilateral, volume, area, perimeter, variable, formula
	Illustrate and name parts of circles including radius, diameter and circumference, knowing that the diameter is twice the size of the radius	Children will build on their understanding of circles to start interpreting pie charts. They will understand how to calculate fractions of amounts to interpret simple pie charts.	Children will apply their understanding of calculating percentages of amounts to interpret pie charts.	Triangles	
	Recognise, build and describe simple 3-D shapes including making nets	Children should understand what the whole of the pie chart represents and use this when solving problems.	Construct a pie chart, using a protractor to measure the angles.	Polygons	
	Recognise angles where they meet at a point, on a straight line or are vertically opposite and find missing angles	Children know that the whole of the pie chart totals 100 %. Encourage children to recognise fractions in order to read the pie chart more efficiently	revisit measuring angles using a protractor from Year 5 Children recap how to line up the protractor accurately, and identify which side of the scale to read.	Angles	
		Understanding of angle sizes.	Children read the measurement and practise measuring angles given in different orientations.	Quadrilaterals	
		Angles are also related to compass points.	Children draw lines correct to the nearest millimetre.	Nets	
		Pupils will build on angles around a point totalling 360 degrees to know that this represents 100 % of the data within a pie chart.	They use a protractor to draw angles of a given size, and will		
		They use a protractor to draw angles of a given size: shown this skill	need to be shown this new skill.		
		Children build on their understanding of degrees in a right angle and make the connection that there are two right angles on a straight line and four right angles around a point.	Children continue to develop their estimation skills whilst drawing and measuring lines and angles.		
		Children build on their knowledge of a right angle and recognise two right angles are equivalent to a straight line, or a straight line is a half of a turn.	They use precise language to describe the types of angles they are drawing.		

**Why is a successful brand important to an Entrepreneur?**

	Consolidate how to line up a protractor accurately, and identify which side of the scale to read. They link this to their understanding of angle sizes. Children read the measurement and practise measuring angles given in different orientations. Angles are also related to compass points.	Children should make links to whole, quarter, half and three quarter turns and apply this in different contexts such as time and on a compass.	
	Children continue to develop their estimation skills whilst drawing and measuring lines and angles. They also continue to recognise, understand and use precise language to describe the types of angles they are drawing.	Once children are aware that angles on a straight line add to 180 degrees, they use this to calculate missing angles on straight lines	
	Children build on their understanding of degrees in a right angle and make the connection that there are two right angles on a straight line and four right angles around a point.	Children recognise when they should measure an angle and when they should calculate the size of an angle from given facts	
	Children build on their knowledge of a right angle and recognise two right angles are equivalent to a straight line, or a straight line is a half of a turn. Part-whole and bar models may be used to represent missing angles	Children apply their understanding of angles in a right angle, angles on a straight line and angles around a point to calculate missing angles	
	Children need to know that there are 360 degrees in a full turn. This connects to their knowledge of right angles, full turns and compass points.	They continue to apply their understanding of angles on a straight line and around a point to calculate missing angles.	
	They should also recognise right angle notation and identify these on a diagram. Children then use this information to help them calculate unknown angles.	Children should apply their understanding that angles at a point on a straight line add up to 180 degrees.	

		Children recognise that vertically opposite angles share a vertex. They realise that they are equal and use practical examples to show this.	Children use their understanding of the properties of triangles to reason about angles.	
		Children practically explore interior angles of a triangle and understand that the angles will add up to 180 degrees.	They should also use their knowledge of angles on a straight line, angles around a point and vertically opposite angles.	
		Children are introduced to hatch marks for equal lengths. They concentrate on angles in right-angled triangles and isosceles triangles.	Children use their knowledge of properties of shape to explore interior angles in polygons. Children explore how they can partition shapes into triangles from a single vertex to work out the sum of the angles in polygons. They use their knowledge of angles on a straight line summing to $180^\circ$ to calculate exterior angles.	
		Children build on prior learning to make links and recognise key features of specific types of triangle. They think about using this information to solve missing angle problems.	Children use their knowledge of properties of shapes and angles, as well as converting between different units of measure.	
		Children use their knowledge of properties of shape to explore interior angles in a parallelogram, rhombus, trapezium etc. They need to learn that angles in any quadrilateral add up to $360^\circ$ . If they are investigating by measuring, there may be accuracy errors which will be a good discussion point. Children need to have a secure understanding of the relationship between a rectangle, a parallelogram, a square and a rhombus	Children use their knowledge of 2-D and 3-D shapes to identify three-dimensional shapes from their nets.	



		Children explore how they can partition shapes into triangles from a single vertex to work out the sum of the angles in polygons.	They use measuring tools and conventional markings to draw nets of shapes accurately.		
		Children begin by drawing shapes accurately on different grids such as squared and dotted paper. They then move on to using a protractor on plain paper.			
		Children need to recognise that a net is a two-dimensional figure that can be folded to create a three-dimensional shape. They use measuring tools and conventional markings to draw nets of shapes accurately.			

## Summer Term 2

<b>What was the Ottoman Empire?</b>	Consolidation and completion of ALL PREVIOUS UNITS	Use and interpret algebraic notation	Use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships.	Algebra	variable, value, letters, formulae, substitution, collect, terms
	Generate and describe linear number sequences	Learn to provide example solutions by choosing a value for one unknown and then calculating the other unknown.			
	Express missing number problems algebraically	Understand and use standard mathematical formulae; rearrange formulae to change the subject.			
	Find pairs of numbers that satisfy an equation with two unknowns				
	Enumerate possibilities of combinations of two variables				