Maths Overview and Skills Progress

Year Group		Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Reception	**Area of study**	**Just Like Me** Matching and sorting objects Guessing rules Comparing amounts Comparing size, mass and capacity Making patterns **It's Me 1, 2, 3** Representing and comparing 1, 2, 3 Composition of 1, 2, 3 Circles and triangles **Light and Dark** Numbers 4 and 5 One more and one less Shapes with 4 sides Night and day		**Alive in 5** Introducing zero Comparing numbers to 5 Composition of 4 and 5 Comparing mass and capacity **Growing 6, 7, 8** Counting, representing and arranging 6,7,8 Making pairs Combining 2 groups Length and height Time **Building 9 and 10** Counting, representing and arranging 9 and 10 Comparing numbers to 10 Bonds to 10 3D shape		**To 20 and Beyond** Consolidating subitising; counting; composition; sorting and matching; and comparing and ordering Building numbers to beyond 10 Counting patterns beyond 10 How many is 100? Spatial reasoning **First, then, now** Consolidating subitising; counting; composition; sorting and matching; and comparing and ordering Adding more Taking away Spatial reasoning **Find My Pattern** Consolidating subitising; counting; composition; sorting and matching; and comparing and ordering Doubling Sharing and Grouping Even and Odd	
	Development Matters and Early Learning Goals statements	**Used throughout the Year** **Mathematical Vocabulary** - Use a wider range of vocabulary - Understand 'why' questions - Participate in small group, class and 1:1 discussions, offering their own ideas, using recently introduced vocabulary **Number and Place Value** Counting - Count objects, actions and sounds - Count beyond 10 - Verbally count beyond 20, recognising the pattern of the counting system Identifying, Representing and Estimating Numbers - Subitise up to 5 - Link the number symbol (numeral) with its cardinal number value Compare and Order Numbers - Understand the 'one more than/one less than' relationship between consecutive numbers - Have a deep understanding if the numbers to 10, including to composition of each number **Addition and Subtraction**					

Mental Calculations
- Recall number bonds to 10, including double facts
Solve Problems
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly

Measurement
Describe, Measure, Compare and Solve
- Compare length, weight and capacity
Telling the Time
- Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then'

Properties of Shape
Recognise 2D and 3D Shapes and their Properties
- Talk about and explore 2D and 3D shapes using informal and mathematical language including sides, corners, straight, flat and round
- Combine shapes to make a new one
- Select, rotate and manipulate shapes in order to develop spatial reasoning skills
Compare and classify Shapes
- Compose and decompose shapes so that children can recognise a shape and have other shapes within in, just as numbers can

Position and Direction
Position, Direction and Movement
- Use positional language such as under, in front of and behind
- Describe a familiar route
- Draw information on a simple map
Patterns
- Talk about and identify patterns around them
- Extend and create ABAB patterns
- Notice and correct an error in a repeating pattern
- Continue, copy and create repeating patterns

Statistics
Record, Present and Interpret Data
- Experiment with their own symbols and marks, as well as numerals

Key skills			
	- Find and match objects - Sort objects based on colour, size or shape - Guessing sorting rules - Compare and order amounts of objects - Comparing size, mass and capacity - Balancing scales - Copy, continue and create own simple repeating patterns - Spotting mistakes in repeating patterns - Identify representations of 1, 2, 3, 4 and 5and subitise - Explore compositions of 2, 3, 4 and 5 - Exploring one more and one less	- Understanding the name zero and numeral 0 - Comparing numbers to 5 - Develop understanding of the composition of 4, 5, 6, 7, 8, 9 and 10 - Comparing mass and capacity - Representing 6, 7, 8, 9 and 10 in different ways - Developing understanding of making pairs and identifying patterns - Beginning to combine 2 groups to find how many altogether - Begin to use language to describe length and height	- Instantly recognise small quantities - Practise and consolidate counting on and back within 10 - Continue to develop understanding that all quantities are composed of smaller quantities - Build and identify numbers to 20 and beyond using a range of resources - Representations clearly showing the full 10s and part of the 10, for example 14 is one full ten and four. - Completing jigsaws and shape puzzles to develop spatial reasoning - Use real objects to see that the quantity of a group can be changed by adding more

			• Continue to order and sequence important times in their day and use language such as now, before, later, soon, after, then and next • Beginning to explore number bonds to 10 • Exploring 3D shapes e.g. which shapes stack and which shapes roll • Build on previous pattern work to create more complex patterns e.g. ABB, AAB, AABB, AABBB	• Use real objects to see that the quantity of a group can be changed by taking items away • Learn that doubling means 'twice as many' • Build doubles using real objects and mathematical equipment • Recognise equal sharing • Recognise and make equal groups

	Area of study			
Year 1		**Number** Place value within 10 Sorting, counting and representing objects Count, read and write forwards and backwards 0-10 Counting one more and one less Comparing using language and symbols Ordering objects and numbers Ordinal numbers Place value within 20 Count, read and write forwards and backwards 0-10 Numbers from 11 to 20 Tens and ones Count one more and one less Compare groups of objects and numbers Order groups of objects and numbers Addition and subtraction within 10 Part-whole model Addition symbol Fact families (+) Number bonds within 10 Compare number bonds Adding together and adding more Finding a part Subtraction – crossing out, finding a part and counting back Subtraction symbol Fact families (the 8 facts) **Geometry** Shape Recognise, name and sort 2D shapes Recognise, name and sort 3D shapes Patterns with 2D and 3D shapes	**Number** Addition and subtraction within 20 Add by counting on Find and make number bonds Add by making 10 Subtraction – not crossing 10 and crossing 10 Related facts Comparing number sentences Place value within 50 Numbers to 50 Tens and ones Represent numbers to 50 One more and one less Compare objects and numbers within 50 Order numbers within 50 Count in 2s and 5s **Measurement** Length and height Compare lengths and heights Measure length Weight and volume Introduce weight and mass Measure and compare mass Introduce capacity and volume Measure and compare capacity	**Number** Multiplication and division Count in 10s Make equal groups Add equal groups Make arrays Make doubles Make equal groups – grouping and sharing Fractions Find a half Find a quarter Place value within 100 Counting to 100 Partitioning numbers Comparing numbers Ordering numbers One more, one less **Geometry** Position and direction Describe turns Describe position **Measurement** Money Recognising coins Recognising notes Counting in coins Time Before and after Dates Time to the hour Time to the half hour Writing time Comparing time

	National curriculum statements	**Number and Place Value**
		- Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
		- Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
		- Given a number, identify one more and one less
		- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
		- Read and write numbers from 1 to 20 in numerals and words.
		
		Addition and Subtraction
		- Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs
		- Represent and use number bonds and related subtraction facts within 20
		- Add and subtract one-digit and two-digit numbers to 20, including zero
		Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = − 9.
		
		Geometry
		- Recognise and name common 2-D and 3-D shapes, including:
		   - 2-D shapes [for example, rectangles (including squares), circles and triangles]
		   - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]
		- Describe position, direction and movement, including whole, half, quarter and three-quarter turns.
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			Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = − 9.
			
			Measurement
			- Compare, describe and solve practical problems for:
			   - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
			   - mass/weight [for example, heavy/light, heavier than, lighter than]
			   - capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
			- Measure and begin to record the following:
			    - lengths and heights
			    - mass/weight
			    - capacity and volume
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				- Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
				- Given a number, identify one more and one less
				- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
				- Read and write numbers from 1 to 20 in numerals and words.
				
				Multiplication and Division
				- 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.
				
				Fractions
				- Recognise, find and name a half as one of two equal parts of an object, shape or quantity
				- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.
				
				Measurement
				- Compare, describe and solve practical problems for:
				   - time [for example, quicker, slower, earlier, later]
				- Measure and begin to record the following:
				   - time (hours, minutes, seconds)
				- Recognise and know the value of different denominations of coins and notes
				- Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
				- Recognise and use language relating to dates, including days of the week, weeks, months and years
				- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
				
				Geometry
				- Describe position, direction and movement, including whole, half, quarter and three-quarter turns.

	Key skills	• Using a range of manipulatives to represent numbers • Using number tracks to find one more and one less • Be introduced Dienes to represent numbers in tens and ones	• Use number lines to aid counting on for addition • Use number lines to aid counting back for subtraction • Become fluent with number bonds to 10 • Make links between addition and subtraction	• To use manipulatives and pictorial representations to count in groups of 10 • To use manipulatives and pictorial representations to represent equal groups

		• Begin to use part whole model to show two parts make a whole • Understand that addition means putting together parts to make a whole • Understand that subtraction means taking a part away • Become confident with recognising 2D and 3D shapes • Begin to understand some properties of 2D shapes	• Continue to develop knowledge of use of manipulatives to represent numbers • Use manipulatives and pictorial representations to count in groups of 2 and 5. • Learn and use the key features of a ruler • Begin to use a range of measurement vessels	• To being to use arrays to show counting in groups • To use manipulatives and pictorial representations to show making equal groups by sharing and grouping • To use manipulatives and pictorial representations to show half and quarter • To use coins and notes to recognise British money • To use language to show passing of time • To read o'clock and half past on an analogue clock

	Area of study			
Year 2		**Number** <u>Place value</u> Count objects to 100 and read and write numbers in numerals and words Represent numbers to 100 Tens and ones with a part-whole model Tens and ones using addition Use a place value chart Compare and order objects and numbers Count in 2s, 5s, 10s and 3s <u>Addition and Subtraction</u> Fact families – addition and subtraction bonds to 20 Check calculations Compare number sentences Related facts Bonds to 100 Add and subtract 1s 10 more and 10 less Add a 2-digit and 1-digit number Subtract a 1-digit number from a 2-digit number Add and subtract two 2-digit numbers Add three 1-digit numbers **Measurement** <u>Money</u> Count money – pounds and pence Selecting money Make the same amount Compare money Find the total Find the difference Find change Two-step problems	**Number** <u>Multiplication and division</u> Recognise, making and adding equal groups Multiplication sentences using the X symbol Multiplication sentences from pictures Use arrays Make doubles 2, 5 and 10 times tables Make equal groups by sharing and grouping Dividing by 2, 5 and 10 Odd and even numbers <u>Fractions</u> Make equal parts Recognise and find a half Recognise and find a quarter Recognise and find a third Unit fractions Non-unit fractions Equivalence of ½ and 2/4 Find three quarters Count in fractions **Statistics** Make tally charts Draw and interpret pictograms (1:1) Draw and interpret pictograms (2, 5 and 10) Block diagrams **Geometry** <u>Properties of shape</u> Recognise 2D and 3D shapes Count sides and vertices on 2D shapes Draw 2D shapes Lines of symmetry Sort 2D shapes Make patterns with 2D shapes Count faces, edges and vertices on 3D shapes	**Measurement** <u>Length and height</u> Measure length in cm and m Compare lengths Order lengths Four operations with length <u>Time</u> O'Clock and half past Quarter past and quarter to Telling time to 5 moinutes Hours and days Find durations of time Compare durations of time <u>Mass, capacity and temperature</u> Compare mass Measure mass in g and kg Compare volume Millilitres and litres Temperature **Geometry** <u>Position and direction</u> Describe movement and turns Making patterns with shapes

			Sort 3D shapes Make patterns with 3D shapes	

	National curriculum statements	**Number and Place Value**
		- Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
		- Recognise the place value of each digit in a two-digit number (tens, ones)
		- Identify, represent and estimate numbers using different representations, including the number line
		- Compare and order numbers from 0 up to 100; use and = signs
		- Read and write numbers to at least 100 in numerals and in words
		- Use place value and number facts to solve problems.
		
		Addition and Subtraction
		- Solve problems with addition and subtraction:
		    - using concrete objects and pictorial representations, including those involving numbers, quantities and measures
		    - applying their increasing knowledge of mental and written methods
		- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
		- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
		    - a two-digit number and ones
		    - a two-digit number and tens
		    - two two-digit numbers
		    - adding three one-digit numbers
		- Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
		- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
		
		Measurement
		- Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
		- Find different combinations of coins that equal the same amounts of money
		- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
			Multiplication and Division
			- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
			- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
			- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
			- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.
			
			Fractions
			- Recognise, find, name and write fractions 1/3, 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity
			- Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2
			
			Statistics
			- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
			- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
			- Ask and answer questions about totalling and comparing categorical data.
			
			Geometry
			- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
			- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
			- Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
			- Compare and sort common 2-D and 3-D shapes and everyday objects.
				Measurement
				- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
				- Compare and order lengths, mass, volume/capacity and record the results using >, < and =
				- Compare and sequence intervals of time
				- 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
				- Know the number of minutes in an hour and the number of hours in a day.
				
				Geometry
				- Order and arrange combinations of mathematical objects in patterns and sequences
				- Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).

	Key skills	• To use manipulatives and pictorial representations to represent numbers to 100	• To use manipulatives and pictorial representations to make equal groups	• To use rulers and meter sticks to measure the length and width of a range of resources

- To use part-whole model and bar model to show tens and ones of 2-digit numbers
- To use manipulatives and pictorial representations to count in groups of 2, 5, 10 and 3
- To use part-whole model and bar model to show the relationship between addition and subtraction
- To show understanding that the numbers in an addition calculation are commutative but numbers in a subtraction calculation are not
- To use a hundred square to show number bonds to 100
- To apply knowledge of place value to add and subtract tens and ones
- To apply knowledge of addition to find different ways of making the same amount of money
- To use bar model to add pounds
- To use number line to find change

- To use pictorial representations to recognise and write multiplication calculations, including arrays
- To use manipulatives and pictorial representations to create equal groups by sharing and grouping
- To develop fluency of 2, 5 and 10 times tables
- To understand that numbers in a multiplication calculation are commutative but numbers in a division calculation are not
- To identify odd and even numbers
- To understand fractions as part of a whole
- To use manipulatives and pictorial representations to find half, quarter and third of shapes and numbers
- To draw, complete and interpret tally charts, bar charts and block diagrams
- To name the properties of 2D and 3D shapes
- To create 2D and 3D shapes

- To identify objects smaller than and larger than 1m
- To use a range of methods to use the four operations with length
- To understand the features of an analogue clock
- To read o'clock, half past, quarter past and quarter to
- To read time to the nearest 5 minutes
- To use the number line to find durations of time
- To use a range of vessels to measure capacity and volume
- To understand the features of a thermometer
- To understand quarter turn, half turn and three-quarter turn (clockwise and anticlockwise)