Whole School Maths Long Term Plan 2023/24

	Intent: -For children to have a sound knowledge of the maths curriculum. -For all children to have opportunity to master the maths curriculum. -To spend longer on units to embed and master knowledge. -To ensure all units are covered in depth. -For children to become fluent with basic number and times tables facts.
	We will be following the long term plan from white rose (not new scheme version) as it fits better with our mixed classes. However, when using resources and following the small steps, we will be using the newer schemes as then we can ensure all small steps to learning are covered.
Nursery	**By the end of the summer term before they start reception children will be able to recall:** - **5 current buns** - **One, two buckle my shoe** - **One, two, three, four, five** **They will also learn the rhymes:** - **Five little speckled frogs** - **Hickory dickory dock** - **5 little men in a flying saucer** - **3 blind mice** - **5 little bears** - **2 little dicky birds** - **5 little monkeys jumping on the bed** - **5 little firemen** - **10 fat sausages** - **10 green bottles**

Nursery Checkpoints
3 and 4 year olds

Checkpoint	Maths - Numbers	Maths - Numerical Patterns	Shape, Space and Measure
On entry	Have an interest in numbers in the environment. Attempt to count (skip counting)	Recognise and sort objects by colour.	Spot shapes in the environment
Term 1	Recite to 5 Count a group of objects. Recognise some numerals.	Describe patterns in the environment ie – stripy, spotty	Talk about 2D and 3D shapes Use the language: side, corners, straight, flat, curved
Term 2	Recite past 5 Develop 1:1 correspondence to 5 Compare quantities visually by recognising more than, fewer than. Recognise numerals to 5	Creating repeating patterns ABAB with objects.	Use shapes in construction. Talk about the sides and surfaces. Use pronouns to describe the position of objects.
Ready for school	Subitise to 3. Represent 1 – 5 on fingers and with objects.	Join in with number songs Recite numbers to 10 Demonstrate understanding that we use one number for each item, when counting. Attempt to count objects. Use and understand the term "more" in practical contexts.	Describe the size or shape of real-life objects using simple mathematical vocabulary, e.g. *big/small, round/straight*. Time - understand *first/then, now, next* *Sorting/matching* - sort groups of objects according to different criteria

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	Autumn 1 **8 weeks**	Autumn 2 **7 weeks**	Spring 1 **5 weeks**	Spring 2 **5 weeks**	Summer 1 **7 weeks**	Summer 2 **7 weeks**
Reception Continuous consolidation throughout the year **Bec to cover shape, space and measures on Tuesdays**	Baseline Assessment Getting to know you 2wks Match, sort and compare 2wks Talk about measure and patterns 2wks It's me 1,2,3! 2wks	Circle and Triangles 1 wk 1, 2, 3, 4, 5 2wks Shapes with 4 sides 1wk	Alive in 5 2 wks Mass and Capacity 1 wk Growing 6, 7, 8 2wks Length, height and time 2 wks	Building 9 and 10 3 wks Explore 3D shapes 2 wks	To 20 and beyond 2wks How many now? 1 wk Manipulate, compose and decompose 2wks Sharing and grouping 2wks	Visualise, build and map 3 wks Make connections 1wk Consolidation 1 wk

Reception checkpoints

Checkpoint	Maths - Numbers	Maths - Numerical Patterns	Shape, Space and Measure
September	Subitise to 3. Represent 1 - 5 on fingers, on a tens frame and with objects.	Join in with number songs, attempting to represent numbers using fingers where appropriate. Recite numbers to 10 or beyond. Demonstrate understanding that we use one number for each item, when counting. Attempt to count objects, actions and sounds. Use and understand the term "more" in practical contexts.	Describe the size or shape of real-life objects using simple mathematical vocabulary, e.g. *big/small, round/straight*. Time - understand *first/next* *Sorting/matching* - sort groups of objects according to different criteria
Christmas	Subitise to 4. Discuss composition of numbers to 4, showing some automatic recall of number facts. Begin to recognise parts within numbers. E.g. Look at 4 buttons and say "I can see a group of 2 and another group of 2"	Recite numbers to 20 confidently. Count back from 10. Demonstrate understanding of the cardinal principle when counting objects. Show accuracy when counting a group of up to 5/10 objects. Use and understand the terms more and fewer/less in practical contexts. Understand the term equal when comparing two groups of objects.	Time - Understand *yesterday/today/tomorrow*. Recite days of the week. Shape - Identify straight and curved sides on 2D shapes, and flat and curved faces on 3D shape Use shapes to make pictures/models. Measure - use and understand the terms short/tall, large/small. Sequence 4 items according to these criteria.
Easter	Discuss composition of numbers to 4, showing some automatic recall of number facts. Confidently subitise rather than count small groups of objects.	Recite numbers to 20 and back from 20. Count on from a given number to 20 and back from a given number 0 - 10. Show accuracy when counting a group of objects, showing 1 to 1	Demonstrate understanding of everyday prepositions - in, on, under, beside, in front, behind. Time - Use and understand *before/after* Shape - Select, rotate and manipulate shapes to match a picture, fit an outline or create patterns. Pattern - continue a simple AB, ABC pattern

	Subitise to 5 using familiar concept images (e.g. a tens frame, with Numicon and using fingers)	correspondence & confident application of the cardinal principle. Say the number one more/less than a given number 1 - 10. Explore sharing into equal groups in practical contexts, commenting on what they notice.	
EOY incl. ELG	ELG - Have a deep understanding of number to 10, including the composition of each number. ELG - Subitise (recognise quantities without counting) up to 5. ELG - 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.	ELG - Verbally count beyond 20, recognising the pattern of the counting system. ELG - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. ELG - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally	NO ELG FOR THIS AREA. Use everyday language to discuss length, size, height, weight, time, position and capacity. Use this language to make simple observations, e.g. this is heavier than that. Shape - Understand and use correct mathematical language to describe 2D and 3D shapes (e.g. vertices, sides, edges, faces, flat/curved). Shape - Know some common 2D and 3D shapes. Pattern - create, copy and continue a simple pattern
Those working in Greater Depth may...	Be able to "conceptually subitise" to 10 or beyond. Know number bonds to 10 or beyond. Link subtraction and addition in meaningful ways, e.g. when exploring the part-whole model. Make strong links between areas of their learning, e.g. doubling/halving.	Make estimations based on their "number knowledge/sense", e.g. *that number must be greater than 20 because I can see two full tens and a part finished ten.* Apply their number knowledge to solve problems, e.g. *It takes 3 eggs to make a cake so I must need 6 for two cakes.*	Pattern - create patterns of increasing complexity, e.g. ABCCABCC or spot errors in a given pattern. Shape - confidently discuss the properties of common and irregular 2D and 3D shapes, e.g. giving clues. Make predictions and link their knowledge of number to their work on measures, e.g. *The red car weighed 4 cubes and the green one is heavier so it might weigh 6 cubes.*

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	Autumn 1 **8 weeks**	Autumn 2 **7 weeks**	Spring 1 **5 weeks**	Spring 2 **5 weeks**	Summer 1 **7 weeks**	Summer 2 **7 weeks**
Year 1/2	**Number fact fluency** 2wks	**Addition and Subtraction** 4 wks Year 1 -within 20 Year 2 within 100 (including money)	**Division** 3 wks	**Measures** - Length and Height 2 wk	**Measures** - Time 2 wks	Consolidation
	Place Value 3 wks Year 1 -within 20 Year 2 – within 100	**Multiplication** 3 wks (Year 1 – place value within 50 also)	Year 1 – **Place value** within 100 Year 2 – **Statistics** 2wks	**Fractions** 3 wks	**Problem solving and efficient methods** 2 wks	
	Addition and Subtraction 3 wks Year 1 -within 20 Year 2 within 100				**Measures** 3wks Weight and Volume Year 1 Mass, capacity and temperature Year 2	
	Number Fluency **5 wks**	**Shape**	**Shape** **Position and Direction**	**Reasoning and Problem Solving**		

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	Autumn 1 **8 weeks**	Autumn 2 **7 weeks**	Spring 1 **5 weeks**	Spring 2 **5 weeks**	Summer 1 **7 weeks**	Summer 2 **7 weeks**
Year 2/3	**Number fact fluency** 3 wks	**Addition and subtraction** – 6 wks	**Multiplication** – 5 wks	**Division** – 5 wks	**Fractions** 6 wks	**Problem solving and efficient methods** 3 wks
	Place Value – 5 wks Year 2 – within 100 Year 3 – within 1000					
	Addition and subtraction – 3 wks (including money)	**Multiplication** – 3 wks	**Statistics** – 2 wks	**Fractions** – 4 wks	**Problem solving and efficient methods** 3 wks	**Consolidation**
Year 2/3	**Number fact fluency** 3 wks	**Statistics** – 4 wks	**Measures** – Length and Height 2 wks	**Shape** – 5 wks Year 2 – inc. position and direction Year 3 – inc. perimeter	**Measures** – Time 4 wks	**Measures** – Mass and Capacity 4 wks Year 2 – inc. temperature
	Addition and Subtraction – 3 wks Money	**Measures** – Length and Height 2 wks	**Shape** – 3 wks Year 2 – inc. position and direction Year 3 – inc. perimeter		**Measures** – Mass and Capacity 2 wks	**Consolidation**

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	Autumn 1 **8 weeks**	Autumn 2 **7 weeks**	Spring 1 **5 weeks**	Spring 2 **5 weeks**	Summer 1 **7 weeks**	Summer 2 **7 weeks**
Year 3/ 4	**Number fact fluency** 2wks **Place Value** 4wks	**Addition and subtraction** 2 wks	**Multiplication and Division** 2 wks	**Fractions** 4wks	**Decimals inc. money** 3 wks	**Shape** 4wks Properties Year 3 Position and Direction Year 4
	Addition and subtraction 2 wks	**Multiplication and Division** 4 wks	**Measures** - Length, Perimeter and Area 2wks	**Measures** - Mass and Capacity (Year 3) **Decimals** (Year 4) 3wks	**Measures** - Time 2wks	
				Consolidation	**Statistics** 2wks	**Consolidation**

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	Autumn 1 **8 weeks**	Autumn 2 **7 weeks**	Spring 1 **5 weeks**	Spring 2 **5 weeks**	Summer 1 **7 weeks**	Summer 2 **7 weeks**
Year 4/5	**Number fact fluency** 2 wks **Place Value Including decimal place value** 4 wks **Addition and Subtraction** 2 wks	**Addition and Subtraction** 2 wks **Multiplication and Division** 5 wks	**Multiplication and Division** 2wks **Fractions** 3 wks	**Fractions** 5 wks **Decimals** (Yr 4) **Percentages** (Yr 5) 4 wks	**Decimals** (Yr 4) **Percentages** (Yr 5) 4 wks Consolidation **Measures** - Time 1wk **Properties of shape** 3wks	Consolidation Year 5 – **Converting units and volume** 2wks Consolidation
Year 4/5	**Measures** - Length, perimeter and area	**Measures** - Money (Yr 5)	**Measures** - Time	**Properties of shape**	**Position and Direction**	Year 5 – **Converting units and volume**

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Know and Remember

Facts to be known fluently by the end of the year:

Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5
Counting to 10 Subitise numbers to 3 Represent 1 - 3 on fingers, on a tens frame and with objects.	Subitise numbers to 5 Number bonds to 10 Double facts within 10 Count to 20 Number patterns beyond 20 Read numbers to 10	Number bonds to 20 Counting in 2, 5, 10 Count to 100 (forwards and backwards)	Number bonds to 100 (links to 10) 2 x table 5 x table 10 x table Counting in 3	3 x table 4 x table 8 x table 6 x table 11 x table Count in 50s Count in 100s	7 x table 9 x table 12 x table Count in 25s Count in 1000s	Fluency of all times tables and related division facts Factor Pairs (set by teacher) Prime Numbers up to 19 Counting in tenths, hundredths, thousandths Square numbers

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Vocabulary progression – **Know and Remember** highlighted in pink. Other vocabulary will also be taken from previous year groups if we feel it is not already embedded.

Number – Number and Place Value						
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5
	Count	Sort	Count in steps	Ascending	Negative numbers	Ten thousands
	Subitise	Represent	Count in multiples	Descending	Roman numerals	One hundred thousands
	Order	Multiples	Place value	10 more	1000 more	Powers of
	Compare	Partitioning	Estimate	100 more	1000 less	Integer
	Forwards	Ones	Compare	10 less	Thousands	
	Backwards	Tens		100 less	Round	
	Numerals			Hundreds		
	Digit					
	One more					
	One less					
	Equal to					
	More than					
	Less than (fewer)					
	How many…?					
	Pattern					

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Addition and Subtraction						
Nursery	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	Add	Addition	Sum	Column Addition	4 digit number	
	Plus	Subtraction	3 digit number	Column Subtraction	Operations	
	Altogether	Difference	Commutative	Exchange	Methods	
	Total	Equals	Inverse	Estimate		
	Take away	Facts				
	Minus	Problems				
	Number bonds	Missing number problems				
	Part	2 digit number				
	Whole					
	How many more make…?					

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Multiplication and Division						
Nursery	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	Double	Multiplication	Multiplication tables	Mathematical Statements	Factor Pairs	Multiples
	Half	Division	Commutative	Missing number problems		Factors
	Twice as many	Arrays	Repeated Addition	Integer scaling problems		Prime Numbers
	Equal			Correspondence problems		Square numbers
	Unequal			Derived facts		Cube numbers
	Share			Remainder		Short division
	Group					Product
	Odd					Dividend
	Even					Divisor
	Number Pattern					Quotient

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Fractions/ Decimals/ Percentages						
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5
	Parts of a whole	Whole	Three Quarters	Tenths	Decimal equivalence	Fifth
	Half	Half	Third		Hundredths	Thousandths
		Equal Parts	Equivalent fractions		Convert	Mixed Numbers
		Quarter	Unit fractions		Proper Fractions	Percent %
			Non unit fractions		Improper Fractions	Factors
			Numerator		Decimal Point	Integer
			Denominator			Complements
			One whole			

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				Measurement (Length, Height, Weight, Capacity)		
Nursery	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	Measure	Compare	Standard units	Millimetre (mm)	Kilometres (km)	Cubic centimetre
	Wide (er)	Mass	Estimate	Perimeter	Rectilinear figure	Pounds
	Narrow (er)	Volume	Order		Area	Pints
	Compare		Record results			Decimal notation
	Long (er/est)		Centimetre (cm)			Scaling
	Short (er/est)		Meter (m)			Metric units
	Length		Kilogram (kg)			Imperial units
	Height		Gram (g)			Inches
	Tall (er/est)		Quarter full			Compound Shape
	Weight		Three quarters full			Irregular Shapes
	Capacity		Litres (l)			Square Centimetres
	Heavy (ier/iest)		Millilitres (ml)			Square metres
	Lighter (er/est)		Temperature			
	Big (er/est)		Celsius (˚c)			
	Full					
	Empty					
	Half full					

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Time and Money						
Nursery	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	Time	Chronological Order	Intervals of time	Analogue clock	Convert	
	Quicker	Days of the week	Quarter past	Roman numerals		
	Slower	Months of the year	Quarter to	12 hour clock		
	Earlier	Month	Duration	24 hour clock		
	Later	Year	Value	a.m/p.m		
	Before	O'clock	Change	Noon		
	After	Half past		Midnight		
	First	Second		Leap year		
	Next	Money		Digital		
	Today	Coins				
	Yesterday	Notes				
	Tomorrow	Pounds £				
	Morning	Pence p				
	Afternoon					
	Evening					
	Day					
	Week					
	Hour					
	Minutes					

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Geometry (Properties of Shape)						
Nursery	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	2 D shape	Sides	Pentagon	Right angled triangle	Isosceles	Regular polygon
	Rectangle	Corners	Hexagon	Heptagon	Equilateral	Irregular polygon
	Square	Properties	Line of Symmetry	Octagon	Scalene	Reflex angles
	Circle	Pyramids	Cylinder	Polygon	Trapezium	Degrees
	Triangle	Faces	Edges	Prism	Rhombus	Angles on a straight line
	Characteristics		Vertices	Orientation	Parallelogram	Angles around a point
	3 D shapes		Vertex	Angles	Kite	Vertically opposite
	Cuboids			Acute angle	Geometric Shapes	Missing angles
	Cubes			Obtuse angle	Quadrilaterals	
	Cone			Right angle		
	Spheres			Horizontal line		
	Curved			Vertical line		
	Straight			Perpendicular line		
	Flat			Parallel line		

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Geometry (Position and direction)						
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5
	Over	Position	Clockwise		Co-ordinates	Reflection
	Under	Direction	Anti-clockwise		First quadrant	
	Between	Movement	Rotation		Grid	
	Around	Whole turn	Arrange		Translation	
	Through	Quarter turn	Sequences		Plot	
	On	Half turn			Axis	
	Into	Three – quarter turn				
	Next to					
	Behind					
	Beneath					
	Order					
	Repeat					
	On top of					

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Statistics						
Nursery	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
			Pictogram	Table	Time graph	Timetable
			Tally chart	Bar chart	Discrete data	Two-way tables
			Block diagram	One step problem	Continuous data	
			Category	Two step problem	Line graph	
			Sorting		Comparison problem	
			Totalling		Sum problem	
			Comparing		Difference problem	
			Horizontal		Calculate	
			Vertical		Interpret	