Barnfield School

Healthy, Ambitious, Empathetic, Curious, Creative

Maths Overview

white-rose-maths-progression-document.pdf

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Getting to know you Just like me!	It's me 1,2,3! Light & Dark	Alive in 5! Growing 6,7,8,	Building 9 & 10	To 20 and beyond First, then, now	Find my pattern On the move
Year 1	Place value (within 10)	Addition and subtraction (within 10) Shape	Place value (within 20) Addition and subtraction (within 20)	Place value (within 50) Length and height Mass and volume	Multiplication and Division Fractions Position and direction	Place value (within 100) Money Time
Year 2	Place value	Addition and subtraction Shape	Money Multiplication and Division	Length and height Mass, capacity and temperature	Fractions Time	Statistics Position and direction
Year 3	Place value Addition and subtraction	Multiplication and Division A	Multiplication and Division B Length and perimeter	Fractions A Mass and capacity	Fraction B Money Time	Shape Statistics
Year 4	Place value Addition and subtraction	Measurement Area Multiplication and Division A	Multiplication and Division B Length and perimeter	Fractions Decimals A	Decimals B Money Time	Shape Statistics Position and direction

Year 5	Place value Addition and subtraction	Multiplication and Division A Fractions A	Multiplication and Division B Fraction B	Decimals and percentages Perimeter and area Statistics	Shape Position and direction Decimals	Negative numbers Converting units Volume
Year 6	Place value Addition and subtraction, Multiplication and Division	Fractions A Fractions B Converting units	Ratio Algebra Decimals	Fractions, decimals and percentages Area, perimeter and volume Statistics	Shape Position and direction	Consolidation and problem solving

EYFS Maths Progression of skills (Using White Rose Maths framework)

Mathematics	0-3 Year Olds	3 and 4 Year Olds	Reception Children	ELG
Number	Combines Objects. Takes part in finger rhymes with numbers. Reacts to changes of amount in a group of up to 3 items. Compares amounts. Vocab 'Lots' 'More' 'Same' Develops counting like behaviour. Counts in everyday contexts, sometimes skipping numbers 1,2,3,5.	Develop fast recognition of up to 3 objects, without having to count them individually. Recite numbers past 5. Say one more for each item in order: 1, 2,3,4,5. Know that the last number reached when counting a small set of objects tells you how many there are in total. (Cardinal principle) Show 'finger numbers' up to 5. Link numeral and amount. Experiment with their own symbols and marks as well as numerals. Solve real world mathematical problems with numbers up to 5.	Count objects, actions and sounds. Subitise (recognise number patterns without counting) Link number symbol with its cardinal number value. Count beyond ten Compare numbers Understand the 'one more then/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0-10.	Children have a deep understanding of number to 10, including the composition of each number. Subitise up to 5 Automatically recall number bonds up to 5 and some number bonds to 10, including double facts.
Numerical Patterns	Notice patterns and arrange things in patterns.	Talk about and identify the patterns around them. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Begin to describe a sequence of events using words such as 'first', 'then'	Continue, copy and create repeating patterns.	Verbally count beyond 20, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.

				Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.
Shape, Space, Measure	Uses language such as 'on top of' 'up' 'down' 'through' Compares sizes, weights. Uses gesture and language 'bigger/little/smaller', 'high/low/heavy'.	Talk about and explore 2D and 3D shapes. Understand position through words alone. Compare quantities with language: 'more than', 'fewer than' Describe a familiar route. Discuss routes and locations using words like 'in front of' and 'behind' Make comparisons between objects relating to size, length, weight and capacity. Select shapes appropriately: flat surfaces for building, triangular prism for roof etc.	Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Compare length, weight and capacity.	
Number - Count objects, actions and sounds. Subitise (recognise number patterns without counting) Link number symbol with its cardinal number value. Count beyond ten. Compare numbers. Understand the 'one more then/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0-10. ELG - Children have a deep understanding of number to 10, including the composition of each number. Subitise up to 5. Automatically recall number bonds up to 5 and some number bonds to 10, including double facts.				
Autumn		Spring		Summer

• (White Rose – Just Like me – Compare Amount) Count objects, actions and sounds • Subitise (recognise number patterns without counting) Numbers 0-5. • (White Rose – Just like me – Compare amount) 'Tags' (reliably points or	• Can say one number for each item in order, to 20 • Counts out a smaller number from a larger group, knowing when to stop • Can say, with some accuracy, how many there might be, before counting (sets up to 10)	• Can count, including crossing boundaries 19/20 and 29/30. (White Rose – To 20 and beyond – Number patterns to 20) • Can count things that cannot be moved, such as birds at the bird table

• touches each item), using the stable order to 10 • (White Rose – Just like me – Compare amount) Can count things that can't be seen such as sounds, actions, words (White Rose – Just like me – Compare amount) Can say how many there might be before • counting, though not always accurately (sets up to 10) (White Rose – Just like me – Compare amount) Can say how many there are after counting, • knowing that the last number in the count indicates the total number in a group Compares quantities where the • difference in amounts is less - 'more than' 'less than' 'fewer' 'the same as' to compare collections (up to 10 objects) (White Rose – Light and Dark – 1 more/1 less) • Can find '1 more' from a given number within 10	• Can link the number symbol with its cardinal value – to 10 (White Rose – Building 9 and 10, representing 9 and • 10) Can sometimes recognise amounts that have been rearranged and is beginning to generalise that, if nothing has been added or taken • away, then the amount is the same. Can recognise up to 5 objects without having to count them individually (White Rose – Alive in 5 – • composition of numbers to 5) Compares quantities of objects of different sizes - 'more than'. 'less than' 'fewer' and 'the same as' 'equal (up to 10 objects) (White Rose – Alive in 5 – Comparing numbers to 5) Can find 1 more and 1 less from a given number and is beginning to understand the '1 more than/1 less	• Can link the number symbol (numeral) with its cardinal number • value – to 20 Can recognise amounts that have been rearranged and to generalise that, if nothing has been added or • taken away, then the amount is the same. Can quickly recognise amounts up to 5 when they are not in the 'regular' arrangement (White Rose – Alive in • Five – Composition of numbers to 5) Compares quantities of objects arranged in different ways - 'more than' 'less than' 'fewer' 'the same • as' 'equal to', (up to 10 objects) Can explain the '1 more than/ 1 less than' relationship between sequential numbers within 10 • (White Rose – First, Then, Now – Adding more) Can partition sets of up to 10 into two groups, and recognises that the whole number can be recombined as pairs of numbers to make the

• Understands the composition of numbers 2,3,4,5 Partitions sets of up to 5 objects using a part-part whole • model (White Rose – Its Me 1,2,3! Composition of 1,2,3) Understands that addition is the combining of sets of objects Know which pairs make a given number within 5 Can automatically recall double facts 1+1, 2+2 Can write numbers 0-5	• than' relationship between sequential numbers (White Rose – Alive in Five – One less) Can partition sets of up to 10 into two groups, and recombine to • make the same total (White Rose – Growing 6, 7, 8 – Combining two groups) Understands that subtraction is • removing objects (White Rose - Building 9 and 10 – Counting back)	• same total Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and "+" "-" • Can recall most number bonds to 10, including all double facts • Can explain the pattern (White Rose – To 20 and Beyond) Can write numbers 0-20 (White Rose – To 20 and Beyond)

Shape, Space and Measure - Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Compare length, weight and capacity.		
Autumn	Spring	Summer
• *(White Rose – Just like me – Matching and Sorting)* Explores which shapes will roll and which will slide and is beginning to explain why using the vocabulary 'curved' and 'flat' • Can recognise and describe 3D shapes: cube, cuboid, cylinder, cone, sphere • (White Rose – It's Me 1,2,3! – Circles and Triangles) Can recognise and describe 2D shapes: circle, rectangle, square, triangle,	• (White Rose – Building 9 & 10 – 3D shapes) Can recognise that the faces on a 3D shape often comprise of 2D shapes • Explores and describes how many corners and sides 2D shapes have • Can identify and describe a pentagon, a hexagon and an octagon • Plans to make models, selecting blocks needed and visualising what they will build	• Uses language such as faces, vertices, edges to describe 3D shapes • Can recognise a wider range of 3D shapes, such as pyramids and triangular prisms • (White Rose – First, Then, Now – Spatial Reasoning) Is able to compose and decompose 2D shapes recognising that a shape can have other shapes within it and which shapes combine to make other shapes
• (White Rose – It's Me 1,2,3! Positional Language) Is beginning to use positional vocabulary 'in between' 'over' 'above' 'beneath' 'beside' Describe a familiar route using directional language	• (White Rose – First, Then, Now – Spatial Reasoning) Uses positional vocabulary 'in between' 'over' 'above' 'beneath' 'beside' • Uses ordinal numbers to describe position in a line • Engages with 3D and 2D map-making in familiar environments, sequencing landmarks and designing small worlds	• Uses spatial language, including relative terms depending on viewpoints • Follows and gives directions • (White Rose – First, Then, Now – Spatial Reasoning) Turns and flips objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning)
• *(White Rose – Just like me – Comparing size, mass and capacity)* Can order three items by length and weight using	• (White Rose – Growing 6,7,8! Length & Height) (White Rose – Alive in 5 – Compare Mass, Compare Capacity)	• Uses a range of nonstandard units for measuring making sensible choices depending on what is being measured

• non-standard measures, correctly using the terms: longest, shortest, heaviest, lightest (White Rose – It's Me 1,2,3!) Knows about the different ways we can pay for things	Can order three items by height and capacity using non-standard measures, using tallest, shortest full, empty, half full/empty (White Rose – Growing 6,7,8! – Time) Orders and sequences events using everyday language related to time Recognises that there are different coins and notes	• e.g. cubes, wooden planks, small/large balances, spoons, • buckets (White Rose – On the Move) Is beginning to experience measuring time with timers and calendars Solves problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy (White Rose – On the move) • Can pay for items using 1p, 5p and 10p coins Can pay for items using £1 coins