Mathematical Development

EYFS Area of learning		Where this is found in the curriculum planning/ Assessment Opportunities
Number	-Displays fast recognition of up to 3 objects, without having to count them individually ('subitising') -Recites numbers past 5 -Can say one number for each item in order: 1,2,3,4,5 -Knows that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle') -Can show 'finger numbers' up to 5 -Can link numerals and amounts: e.g. showing the right number of objects to match the numeral, up to 5 -Is experimenting with his/her own symbols and marks as well as numerals -Is able to solve real world mathematical problems with numbers up to 5 -Can compare quantities using language such as; 'more than', 'fewer than'	**White Rose:** **Autumn 1 Week 3&4: Match, Sort & Compare** (2weeks) • Match objects • Match pictures and objects • Identify a set • Sort objects to a type • Explore sorting techniques • Create sorting rules • Compare amounts Who can match and sort objects? **Autumn 2 Week 7&8: I t's Me 1, 2, 3 (2 weeks)** • Find 1, 2 and 3 • Subitise 1, 2 and 3 • Represent 1, 2 and 3 • 1 more • 1 less • Composition of 1, 2 and 3 Who can subitise to 3? Who understands 1 more/1 less? Who can recognise 1, 2 and 3? **Autumn 2 Week 10&11: 1, 2, 3, 4, 5 (2 weeks)** • Find 4 and 5 • Subitise 4 and 5 • Represent 4 and 5 • 1 more • 1 less • Composition of 4 and 5 • Composition of 1-5 Who can subitise to 5? Who understands 1 more/1 less? Who can recognise 4 and 5?
	-Counts objects, actions and sounds -Is able to subitise (recognise how many objects there are in a small group without counting) -Is able to link the number symbol (numeral) with its cardinal number value -Can count beyond ten -Is able to compare numbers -Understands the 'one more than/one less than' relationship between consecutive numbers -Is able to explore the composition of numbers to 10 -Begin to automatically recall number bonds for numbers 0-10	**White Rose:** **Spring 1: Week 1&2 Alive in 5 (2 weeks)** • Introduce zero • Find 0 to 5 • Subitise 0 to 5 • Represent 0 to 5 • 1 more • 1 less • Composition • Conceptual subitising to 5 Who can represent up to 5? Who can find ways of making up to 5? **Spring 1: Week 4&5: Growing 6, 7, 8 (2 weeks)** • Find 6, 7 and 8 • Represent 6, 7, and 8 • 1 more • 1 less • Composition of 6, 7 and 8 • Make pairs-odd and even • Double to 8 (find a double) • Double to 8 (make a double) • Combine 2 groups • Conceptual subitising Who can represent up to 8? Who can recognise 6, 7 and 8? Who can find a double? Who can find an odd/even number? Who can find ways of making 6, 7 and 8? **Spring 2 Weeks 8,9&10: Building 9 and 10 (3 weeks)** • Find 9 and 10 • Compare numbers to 10 • Represent 9 and 10 • Conceptual subitising to 10 • 1 more • 1 less • Composition to 10 • Bonds to 10 (2 parts) • Make arrangements of 10 • Bonds to 10 (3 parts) • Doubles to 10 (find a double) • Doubles to 10 (make a double) • Explore even and odd Who can represent up to 10? Who can recognise 9 and 10? Who can find ways of making 9 and 10?
	-Have a deep understanding of number to 10, including the composition of each number; -Subitise (recognise quantities without counting) up to 5; -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.	**White Rose:** **Summer 1: Week 3: How many now? (1 week)** • Add more • How many did I add? • Take away • How many did I take away? Who can add 2 groups together? Who take away a given amount? Who can explain their learning? **Summer 2: Week 6&7: Sharing and grouping (2 weeks)** • Explore sharing • Sharing • Explore grouping • Grouping • Even and odd sharing • Play with and build doubles Who can share a given amount? Who can group a given amount?

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<td rowspan="3">Numerical Patterns</td>
<td>-Can talk about and explore 2D and 3D shapes (e.g. circles, rectangles, triangles and cuboids) using informal and mathematical language; 'sides', 'corners', 'straight', 'flat', 'round'
-Understands position through words alone, e.g. "The bag is under the table," - with no pointing
-Can describe a familiar route
-Is able to discuss routes and locations, using words like 'in front of' and 'behind'
-Can make comparisons between objects relating to size, length, weight and capacity
-Selects shapes appropriately; flat surfaces for building, a triangular prism for a roof etc
-Combines shapes to make new ones; an arch, a bigger triangle etc
-Talks about and identifies the patterns around him/her, e.g. stripes on clothes, designs on rugs and wallpaper. He/She uses informal language like 'pointy', 'spotty', 'blobs' etc
-Is beginning to describe a sequence of events, real or fictional, using words such as 'first', 'then…'</td>
<td>White Rose:
Autumn 1: Week 5&6: Talk about measure and patterns (2 weeks)
• Compare size
• Compare mass
• Compare capacity
• Explore simple patterns
• Copy and continue simple patterns
• Create simple patterns
Who can use language to talk about size, mass and capacity? Who can copy/continue/create a simple pattern?
Autumn 2 Week 9: Circles and triangles (1 week)
• Identify and name circles and triangles
• Compare circles and triangles
• Shapes in the environment
• Describe position
Who can name a circle and triangle? Who can talk about shapes? Who can describe the position of an object?
Autumn 2 Week 12: Shapes with 4 sides (1 week)
• Identify and name shapes with 4 sides
• Combine shapes with 4 sides
• Shapes in the environment
• My day and night
Who can talk about their day? Who can talk about shapes?</td>
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<td>-Can select, rotate and manipulate shapes in order to develop spatial reasoning skills
-Investigates composing and decomposing shapes and recognises a shape can have other shapes within it, just as numbers can
-Is able to extend and create ABAB patterns, e.g. stick, leaf, stick, leaf
-Notices and corrects an error in a repeating pattern
-Is able to continue, copy and create repeating patterns
-Can compare length, weight and capacity</td>
<td>White Rose:
Spring 1: Week 3: Mass and Capacity (1 week)
• Compare mass
• Find a balance
• Explore capacity
• Compare capacity
Who can balance 2/3 objects? Who can compare the size of 2/3 objects?
Spring 1: Week 6&7: Length, Height and Time (1 week)
• Explore length
• Compare length
• Explore height
• Compare height
• Talk about time
• Order and sequence time
Who can compare the length/height of 2/3 objects? Who can use simple language to describe time? Who can order/sequence 3-4 pictures of their day?
Spring 2 Week 11&12: Explore 3D shapes (2 weeks)
• Recognise and name 3D shapes
• Find 2D shapes within 3D shapes
• Use 3D shapes for tasks
• 3D shapes in the environment
• Identify more complex patterns
• Copy and continue patterns
• Patterns in the environment
Who can recognise and name 3D shapes? Who can copy/continue/create a more complex repeating pattern?</td>
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<td>-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.</td>
<td>White Rose:
Summer 1: Week 1&2: To 20 and beyond (2 weeks)
• Build numbers beyond 10 (10-13)
• Continue patterns beyond 10 (10-13)
• Build numbers beyond 10 (14-20)
• Continue patterns beyond 10 (14-20)
• Verbal counting beyond 20
• Verbal counting patterns
Who can see the pattern of teen numbers? Who can count by rote to 20 and beyond?
Summer 1: Week 4&5: Manipulate, compose and decompose (2 weeks)
• Select shapes for a purpose
• Rotate shapes
• Manipulate shapes
• Explain shape arrangements
• Compose shapes
• Decompose shapes
• Copy 2D shape pictures
• Find 2D shapes within 3D shapes
Who can manipulate 2D shapes and make connections?
Summer 2: Weeks 8,9&10: Visualise, build and map (3 weeks)
• Identify units of repeating patterns
• Create own pattern rules
• Explore own pattern rules
• Replicate and build scenes and constructions
• Visualise from different positions
• Describe positions
• Give instructions to build
• Explore mapping
• Represent maps with models
• Create own maps from familiar places
• Create own maps and plans from story situations
Who can create their own patterns? Who can follow and create their own map?
Summer 2: Week 11: Make connections (1 week)
• Deepen understanding
• Patterns and relationships
Who can talk about their mathematical understanding and make connections?</td>
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