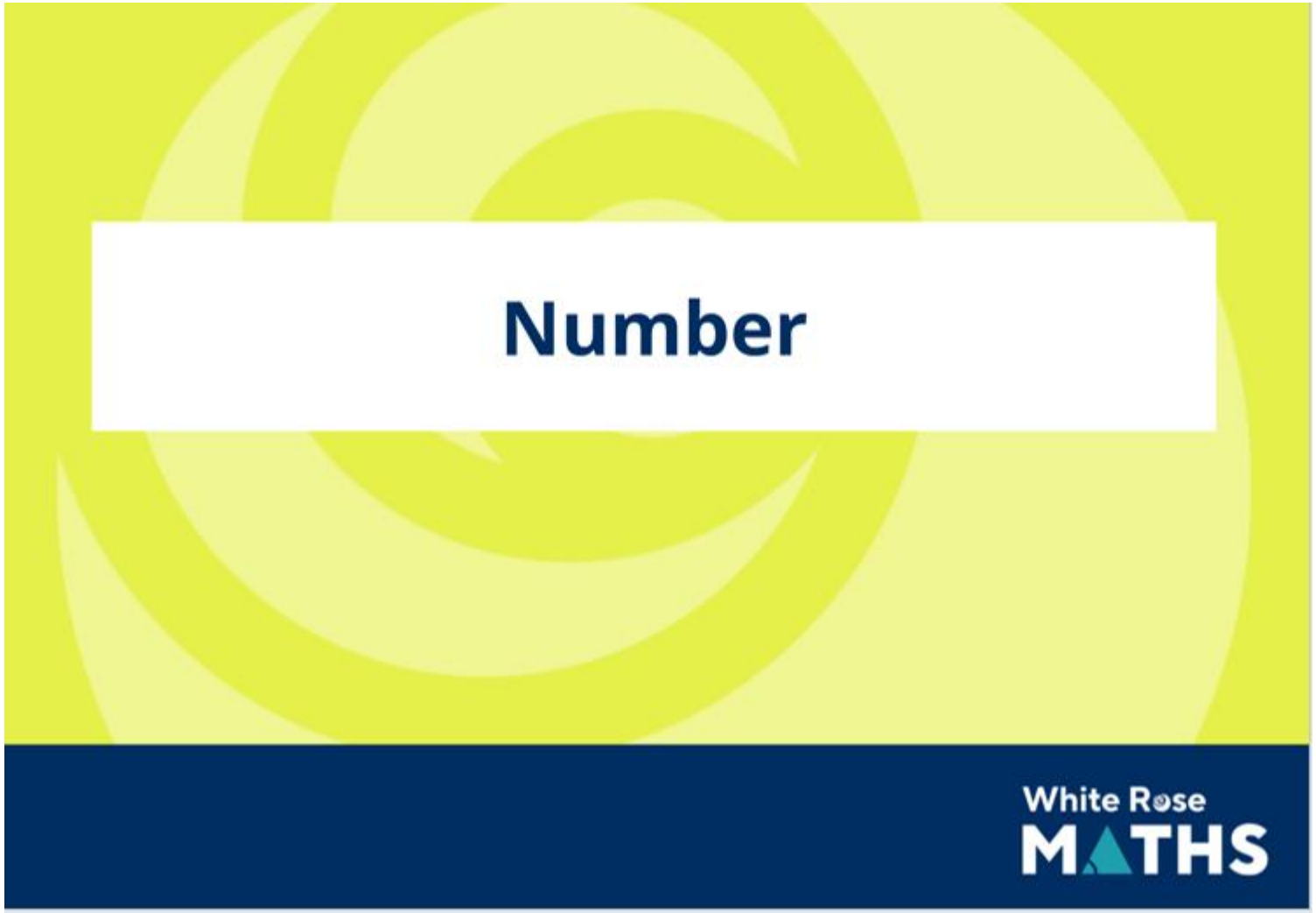
Reception - Progression of Knowledge and Skills Maths



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Comparison

White Rose MATHS

Development matters		Birth to 5 matters	
3 and 4 year olds	**Reception**	**Range 5**	**Range 6**
• Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. • Experiment with their own symbols and marks as well as numerals.	• Count objects, actions and sounds. • Compare numbers.	• Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same!	• Uses number names and symbols when comparing numbers, showing interest in large numbers • Estimates of numbers of things, showing understanding of relative size
Autumn 3, Autumn 5 Spring 1 Summer 2	Autumn 1, Autumn 5 Spring 1, Spring 3, Spring 4, Spring 5 Summer 1, Summer 6	Autumn 2, Autumn 5	Spring 1, Spring 3, Spring 5 Summer 1, Summer 4

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Counting

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Development matters		Birth to 5 matters	
3 and 4 year olds	**Reception**	**Range 5**	**Range 6**
• Recite numbers past 5. • Say one number for each item in order: 1, 2, 3, 4, 5.	• Count beyond ten.	• May enjoy counting verbally as far as they can go • Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5. • Uses some number names and number language within play, and may show fascination with large numbers • Begin to recognise numerals 0 to 10	• Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0 • Increasingly confident at putting numerals in order 0 to 10 (ordinality)
Autumn 3, Autumn 5 Spring 3, Spring 5 Summer 1	Summer 1, Summer 6	Autumn 3, Autumn 5 Spring 1, Spring 5 Summer 1	Spring 5 Summer 1

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Cardinality

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Development matters		Birth to 5 matters	
3 and 4 year olds	**Reception**	**Range 5**	**Range 6**
• Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). • 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.	• Subitise • Link the number symbol (numeral) with its cardinal number value.	• Subitises one, two and three objects (without counting) • Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle) • Links numerals with amounts up to 5 and maybe beyond • Explores using a range of their own marks and signs to which they ascribe mathematical meanings	• Engages in subitising numbers to four and maybe five • Counts out up to 10 objects from a larger group • Matches the numeral with a group of items to show how many there are (up to 10)
Autumn 3, Autumn 5 Spring 1	Autumn 3, Autumn 5 Spring 1, Spring 3, Spring 5 Summer 6	Autumn 3, Autumn 5 Spring 1 Summer 2	Autumn 5 Spring 1, Spring 3, Spring 5 Summer 4

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Composition

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Development matters		Birth to 5 matters	
3 and 4 year olds	**Reception**	**Range 5**	**Range 6**
• Solve real world mathematical problems with numbers up to 5.	• Understand the 'one more than/one less than' relationship between consecutive numbers. • Explore the composition of numbers to 10. • Automatically recall number bonds for numbers 0-5 and some to 10.	• Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers • Beginning to use understanding of number to solve practical problems in play and meaningful activities • Beginning to recognise that each counting number is one more than the one before • Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same	• Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects • Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three • In practical activities, adds one and subtracts one with numbers to 10 • Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and "+" or "-"
Autumn 5 Spring 1	Autumn 3, Autumn 5 Spring 1, Spring 3, Spring 5 Summer 2, Summer 4, Summer 6	Autumn 3, Autumn 5 Spring 1	Autumn 5 Spring 1, Spring 3, Spring 5 Summer 2, Summer 4, Summer 6

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Spatial awareness

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Development matters		Birth to 5 matters	
3 and 4 year olds	**Reception**	**Range 5**	**Range 6**
• Compare quantities using language: 'more than', 'fewer than', • Understand position through words alone – for example, "The bag is under the table," – with no pointing. • Describe a familiar route. • Discuss routes and locations, using words like 'in front of' and 'behind'.	• Select, rotate and manipulate shapes in order to develop spatial reasoning skills.	• Responds to and uses language of position and direction • Predicts, moves and rotates objects to fit the space or create the shape they would like	• Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints • Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning) • May enjoy making simple maps of familiar and imaginative environments, with landmarks
Autumn 2, Autumn 4 Spring 3 Summer 5	Spring 6 Summer 3	Autumn 4 Spring 6 Summer 3	Spring 6 Summer 3, Summer 5

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Shape

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Development matters		Birth to 5 matters	
3 and 4 year olds	**Reception**	**Range 5**	**Range 6**
• 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'. • Select shapes appropriately: flat surfaces for building, a triangular prisms for a roof, etc. • Combine shapes to make new ones – an arch, a bigger triangle, etc.	• Compose and decompose shapes so that children recognise a shape can have other shapes *within* it, just as numbers can.	• Chooses items based on their shape which are appropriate for the child's purpose • Responds to both informal language and common shape names • Shows awareness of shape similarities and differences between objects • Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes • Attempts to create arches and enclosures when building, using trial and improvement to select blocks	• Uses informal language and analogies, (e.g. *heart-shaped and hand-shaped leaves*), as well as mathematical terms to describe shapes . • Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes • Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build.
Autumn 4, Autumn 6 Spring 6	Autumn 6 Spring 6 Summer 3	Autumn 6 Spring 6 Summer 3	Autumn 4 Spring 6 Summer 3, Summer 5

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Pattern

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Development matters		Birth to 5 matters	
3 and 4 year olds	**Reception**	**Range 5**	**Range 6**
• 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. • Extend and create ABAB patterns – stick, leaf, stick, leaf. • Notice and correct an error in a repeating pattern.	• Continue, copy and create repeating patterns.	• Creates their own spatial patterns showing some organisation or regularity • Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC) • Joins in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next	• Spots patterns in the environment, beginning to identify the pattern "rule" • Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat
Autumn 2 Spring 6	Autumn 2 Spring 6 Summer 5	Autumn 2	Autumn 1 Spring 6 Summer 5

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Measure

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Development matters		Birth to 5 matters	
3 and 4 year olds	**Reception**	**Range 5**	**Range 6**
• Make comparisons between objects relating to size, length, weight and capacity. • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	• Compare length, weight and capacity.	• In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items • Recalls a sequence of events in everyday life and stories.	• Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy • Becomes familiar with measuring tools in everyday experiences and play • Is increasingly able to order and sequence events using everyday language related to time • Beginning to experience measuring time with timers and calendars
Autumn 2 Spring 2, Spring 4 Summer 5	Spring 2, Spring 4 Summer 6	Autumn 2, Autumn 6 Spring 4	Autumn 6 Spring 2, Spring 4 Summer 6