St Barnabas and St Paul's C of E Primary School Reception Long Term Maths Plan 2022-2023

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
General Themes	All About me!	Terrific Tales	Amazing Animals	Come Outside	Ticket to Ride	Fun at the seaside
Mathematics	Developing a **strong grounding in number** is essential so that all children develop the necessary **building blocks** to excel mathematically. Children should be able to **count confidently**, develop a deep understanding of the **numbers to 10**, the **relationships between** them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using **manipulatives,** including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which **mastery of mathematics** is built. In addition, it is important that the curriculum includes **rich opportunities for children to develop their spatial reasoning** skills across all areas of mathematics including shape, space and measures. It is important that children **develop positive attitudes and interests in mathematics**, look for **patterns and relationships**, spot **connections, 'have a go'**, **talk to adults** and peers about what they notice and not be afraid to make mistakes.					
NCETM - Mastering Number *"Without mathematics, there's nothing you can do. Everything around you is mathematics. Everything around you is numbers."* – ***Shakuntala Devi***	Pupils will build on previous experiences of number from their home and nursery environments, and further develop their subitising and counting skills. They will explore the composition of numbers within 5. They will begin to compare sets of objects and use the language of comparison. Pupils will: • identify when a set can be subitised and when counting is needed • subitise different arrangements, both unstructured and structured.		Pupils will continue to develop their subitising and counting skills and explore the composition of numbers within and beyond 5. They will begin to identify when two sets are equal or unequal and connect two equal groups to doubles. They will begin to connect quantities to numerals. Pupils will: • continue to develop their subitising skills for numbers within and beyond 5, and increasingly connect quantities to numerals • begin to identify missing parts for numbers within 5		Pupils will consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. They will secure knowledge of number facts through varied practice. Pupils will: • continue to develop their counting skills, counting larger sets as well as counting actions and sounds • explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame	

	•make different arrangements of numbers within 5 and talk about what they can see, to develop their conceptual subitising skills. • spot smaller numbers 'hiding' inside larger numbers • connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers • hear and join in with the counting sequence, and connect this to the 'staircase' pattern of the counting numbers, seeing that each number is made of one more than the previous number • develop counting skills and knowledge, including: that the last number in the count tells us 'how many' (cardinality); to be accurate in counting, each thing must be counted once and once only and in any order; the need for 1:1 correspondence; understanding that anything can be counted, including actions and sounds • compare sets of objects by matching • begin to develop the language of 'whole' when talking about objects which have parts	• explore the structure of the numbers 6 and 7 as '5 and a bit' and connect this to finger patterns and the Hungarian number frame • focus on equal and unequal groups when comparing numbers • understand that two equal groups can be called a 'double' and connect this to finger patterns • sort odd and even numbers according to their 'shape' • continue to develop their understanding of the counting sequence and link cardinality and ordinality through the 'staircase' pattern • order numbers and play track games • join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers	• compare quantities and numbers, including sets of objects which have different attributes • continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2 • begin to generalise about 'one more than' and 'one less than' numbers within 10 • continue to identify when sets can be subitised and when counting is necessary • develop conceptual subitising skills including when using a rekenrek

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White Rose Maths – ***Measure, Space and Spatial Thinking***	• **Compare Size, Mass and Capacity –** The children learn that objects can be compared and ordered to their size. The children will use language such as big and little, large and small to describe a range of objects. More specific language such as tall, long and short will also be introduced. Children will compare and order objects and use vocabulary to explain what they notice. • **Exploring Pattern –** children copy, continue and create their own simple repeating patterns. The children will be given the opportunity to explore AB patterns in a range of contexts including shapes, colours, sizes, actions and sounds. • **Circles and Triangles –** Children learn that circles have once curved side and triangles have 3 straight sides. They begin to recognise these shapes on everyday items in the classroom and outside. • **Positional Language –** Children will hear and begin to use positional language to describe how items are positioned in relation to other items. They will build life-sized journeys outdoors and travel through them, exploring them from different perspectives. Children begin to represent real places they have visited	• **Compare Mass (2) –** The children will be encouraged to make direct comparisons holding items to estimate which feels the heaviest and then use the balance scales to check. They will use the language of heavy, heavier than, heaviest, light, lighter than, lightest to compare items. • **Compare Capacity (2) –** The children will build on their understanding of full and empty. They will explore capacity using materials such as water, sand, rice and beads. They will make direct comparisons by pouring one container into another. • **Length and Height –** When making direct comparisons, the children will begin to use more specific mathematical vocabulary relating to length (longer, shorter), height (taller, shorter), and breadth (wider, narrower). • **Time –** The children will continue to order and sequence important times in their day and use language such as now, before, later, soon, after, then and next to describe when events happen. They will begin to recognise that regular events happen on the same day each week and use the vocabulary 'yesterday', 'today', and 'tomorrow' to describe when events happen. They will be able to describe significant events in their lives	• **Spatial Reasoning (1) Match, Rotate, manipulate –** The children will have regular opportunities to complete jigsaws and shape puzzles. They will begin to explain why they chose a particular shape and why a different shape wouldn't fit. The children will have opportunities to match arrangement of shapes, prompting them to use positional language to describe where the shapes are in relation to one another. • **Spatial Reasoning (2) Compose and Decompose –** The children will understand that shapes be combined and separated to make new shapes. They will have opportunities to fit shapes together and break shapes apart and to notice the new shapes they have created. • **Spatial Reasoning (3) Visualise and Build -** The children will begin to understand that places and models can be replicated and need to experience looking at these from different positions. Children will have opportunities to replicate simple constructions, models, real places and places in stories. They will use positional language to describe where objects are in relation to other items. • **Spatial Reasoning (4)** Mapping - The children understand that we can make maps and plans to

	or places in stories with their models, drawings or maps. • **Shapes with 4 sides –** Children learn that squares and rectangles have 4 straight sides and 4 corners. They begin to recognise these shapes on everyday items in the classroom and outside. • **Time –** Children will talk about night and day and order key events in their daily routines. They use language to describe when events happen e.g. day, night morning, afternoon, before, after, today, tomorrow. Children will begin to measure time in simple ways e.g. counting the number of sleeps to an important event or using timers to measure durations of events.	and talk about events they are looking forward to. •**3D – Shape –** Children will naturally explore and manipulate 3-D shapes through their block play and modelling. They will consider which shapes stack and which shapes roll and why that is. They will be given opportunities to build using a variety of shapes and to construct 3-D shapes in different ways. The children will be introduced to the names of the shapes and be given opportunities to explore similarities and differences between them as they play and sort them according to what they notice. • **Pattern (2) –** The children will build on earlier AB pattern work by introducing more complex patterns. The children explore patterns which use items more than once in each repeat for example ABB, AAB, AABB, AABBB.	represent places and use these to see where things are in relation to other things. A range of maps and plans will be provided for the children to look at and discuss. What can they see on the map? Where would we put the carpet area on a map of our classroom? Children will have opportunities to create their own maps to represent the models they build, familiar places and places in stories.