

Learning and Teaching in the EYFS - What Maths Subject Leaders Need to Know

School Readiness Intent: Mastery in mathematics at St Francis CE Primary School is based upon a fundamental belief that all children can achieve confidence and competence in mathematics. Teaching and learning builds fluency through prolonged and varied practice. Learning is structured in sequenced steps that are supported by a range of concrete, pictorial and abstract representations which build and deepen pupils' mathematical knowledge, developing the ability to reason and make connections.

EYFS Intent: Children in the Early Years Foundation Stage will be given the opportunity to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measures. Children will learn how to count, recognise and form numbers and use numbers in our everyday play. Children will experience playing shape games and finding out about different types of measures – capacity, size, length, weight, height, money and time. We seek opportunities to apply mathematics to everyday life and for children to experience the importance of its everyday use. We wish to equip children with mathematical knowledge so that they can see the beauty and power of mathematics and have a sense of enjoyment and curiosity about the subject. Nursery and Reception staff will use **White Rose Maths** and Reception staff will use **NCTEM Mastering Number** to plan and support children's learning and development in mathematics. White Rose and NCTEM is a clearly structured teaching and learning process that helps ensure that every child masters each mathematical concept securely and deeply. For each year group, the curriculum is broken down into core concepts, taught in units. A unit divides into smaller learning steps – lessons. Step by step, strong foundations of cumulative knowledge and understanding are built.

The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. The aim of this document is to help subject leaders to understand how the skills taught across EYFS feed into national curriculum subjects. This document demonstrates which statements from the 2020 Development Matters are prerequisite skills for mathematics within the national curriculum. The table below outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Birth to Three, Three and Four-Year-Olds and Reception to match the programme of study for **Mathematics**.

The context and Implementation of the maths program is outlined in our White Rose Maths and NCTEM Mastering Number.

Naturally there are links to the area of learning called - Communication and Language as we use language when we are engaged in everyday maths activities.

Mathematics Skills Progression Map

EYFS Stage	Development Matters - Numbers	Development Matters – Numerical Patterns
Birth to Three Year Olds Nursery	- Combine objects like stacking blocks and cups. Put objects inside others and take them out again. - Take part in finger rhymes with numbers. - React to changes of amount in a group of up to three items. - Compare amounts, saying 'lots', 'more' or 'same'. - Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. - Count  in contexts, sometimes skipping numbers - '1-2-3-5.'	- Climb and squeeze themselves into different types of spaces. - Build with a range of resources. - Complete inset puzzles. - Compare sizes, weights etc. using gestures and language - 'bigger/ little/smaller', 'high/low', 'tall', 'heavy'. - Notice patterns and arrange things in patterns
Three - Four Year Olds Nursery	- Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). - Recite numbers past 5. - Say one number 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  to equal amounts: for example, showing the right number of objects to match the number. - Experiment with their own symbols and marks as well as numerals. - Solve real world mathematical problems with numbers up to 5. - Compare quantities using language: 'more than', 'fewer than'.	- 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'. - 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'. - Make comparisons between objects relating to size, length, weight and capacity. - Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. - Combine shapes to make new ones – an arch, a bigger triangle etc. - 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. - Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...
Reception	- Count objects, actions and sounds. - Subitise. - Link the number symbol (numeral) with its cardinal number value. - Count beyond ten. - Compare numbers. - 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. - Select, rotate and manipulate shapes 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. - Continue, copy and create repeating patterns. - Compare length, weight and capacity
Early Learning Goals	- 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.	- 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.

Maths Skills Progression Map

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EYFS Age	Number – Number and Place Value	Number – Addition and Subtraction	Number – Multiplication and Division	Number – Fractions	Geometry – Properties of Shape and Pattern	Geometry – Position and Direction	Measurement – Length and Height	Measurement – Money	Measurement– Time	Measurement– Weight, Volume, Temperature	Statistics
Birth to Three Nursery	- Counts up to 10. - Talks about missing numbers and identify where they belong on the track by counting. - Begins to identify numbers  - Explores different representations of the same number. E.g. 3 toys, 3 bricks, 3 dots on a dice, numeral 3.	- Counts a small number of objects. - Counts a small number of objects and add one more and count the new total.	- With an adult explores sharing out a small number of objects with other children. - Sorts objects into groups.	Starting to explore halves and through play. E.g. Halve the pizza or biscuit.	- Identifies everyday objects and shapes. - Children explore creating patterns. - Adults supports children to recognise existing patterns. - Children explore shapes through play opportunities.	- Children are supported to use everyday language to talk about position. - Children explore positional language through play opportunities.	- Children are supported to use everyday language to talk about size, length and height. - Children explore size, including length and height through play opportunities.	- Children are supported to use everyday language and role play opportunities to talk about money. - Children explore money through play opportunities.	- Children are supported to use everyday language to talk about time. E.g. Celebrating Birthdays and adults talk about days of the week. - Children explore time language through play opportunities.	- Children are supported to use everyday language to talk about weight, capacity and temperature to compare objects and to solve problems. - Children explore weight, capacity and temperature through play opportunities.	- Children are supported to use self-register. Adults model displaying the data.
Three to Four Year Olds Nursery	- Counts along a class number track 0 - 20. - Talks about missing numbers and identify where they belong on the track by counting. - Begins to match number and numeral. - Tries  familiar arrangements of number. E.g. two dots on a dice, number 3 numicon piece. - Subitise up to 3 and beyond.	- Counts a small number of objects. - Counts a small number of objects and add one more and count the new total. - Children put some objects aside and know that the total is still the same.	- Shares out a small number of objects with other children. - Sorts objects into groups.	Explores halves and quarters through play. E.g. Halve the pizza or biscuit. E.g. Folding paper in half.	- Explore characteristics of everyday objects and shapes and use everyday language to describe them. - Children explore creating and describe patterns. - Children are encouraged to recognise existing patterns. - Children explore shapes through play opportunities.	- Children use everyday language to talk about position, to compare quantities and objects and to solve problems. - Children explore positional language through play opportunities.	- Children use everyday language to talk about size, length and height to compare quantities and objects to solve problems. - Children explore size, including length and height through play opportunities.	- Children use everyday language and role play opportunities to talk about money and to solve problems. - Children explore money through play opportunities.	- Children use everyday language to talk about time to solve problems. E.g. Talk about birthday months and days of the week. - Children explore time language through play opportunities.	- Children use everyday language to talk about weight, capacity and temperature to compare objects and to solve problems. - Children explore weight, capacity and temperature through play opportunities.	- Children complete class votes and adults work with children to gather information and display class results through pictograms.

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Reception 	- Counting numbers 1-20 - Sorting into two groups - Say which number is one more or one less than a given number - Subitising - link numeral with its cardinal number value	- Using quantities and objects, they add and subtract 2 single-digit numbers and count on or back to find the answer	- They solve problems, including doubling, halving and sharing.	- They solve problems, including doubling, halving and sharing.	- Explore characteristics of everyday objects and shapes and use mathematical language to describe them. - Children recognise, create and describe patterns.	- Children use every day and some mathematical language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.	- Children use every day and some mathematical language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.	- Children use every day and some mathematical language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.	- Children use every day and some mathematical language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.	- Children use every day and some mathematical language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.	- Children complete class votes and explore how results are displayed. E.g. votes for schools, and walking surveys.

The Characteristics of Effective Learning and Teaching		
Engagement: Playing and exploring - Finding out and exploring - Playing with what they know - Being willing to 'have a go'	Motivation: Active Learning - Being involved and concentrating - Keeping trying - Enjoying achieving what they set out to do   	Thinking: Creating and thinking critically - Having their own ideas - Making links - Choosing ways to do things

