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| | **All Saints CE Primary School & Nursery** | **Core Subject Overview** |
| | **Subject:** **Maths** | |

## Early Learning Goal

Number ELG Children at the expected level of development will: - 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.

Numerical Patterns ELG Children at the expected level of development will: 12 - 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.

### What this looks like in EYFS:

*Refer to the EYFS framework and checkpoints for further details.*

Throughout EYFS children experience practical concrete provision that develops their understanding of the six areas of Early Mathematical learning identified by NCETM in 2018 and updated in 2019. Cardinality and Counting, Comparison and Composition, Pattern, Shape and Space and Measures. A high priority is given over to securing a deep understanding of concepts through talk and experience. Children meet maths through rich real world experiences and revisit concepts frequently throughout the EYFS. We recognise the importance of mathematical vocabulary in developing mathematical understanding and securing mastery. In EYFS maths is active and positive attitudes are developed through varied opportunities. Children are encouraged to look for patterns and talk about what they notice.

### In EYFS the teaching of Maths includes:

- Daily maths teaching session (Reception)
- Daily counting/singing of number songs and rhymes
- Daily access to practical mathematical provision
- Daily maths talk

- Using picture books which involve number and mathematical concepts
- Use of stem sentences
- Use of teacher talk-what is the same? What is different?
- Displaying numerals and amounts
- Modelling use mathematical vocabulary
- Use of engaging resources and displays
- Use of a variety of representations
- Opportunities to use Mathematics in role play
- Targeted support for learners
- Use of NCETM Mastering Number resources (Reception) and Mastering number at home
- Use of White Rose Early Years resources
- Use of Number blocks BBC

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| Autumn | **More than/fewer than**<br>Collect object to compare amounts<br>Compare amounts<br>Use terms large and small<br>Make collections<br>**Number Names**<br>Hear number names<br>Say number names<br>Model saying number names in order<br>Practise saying number names in order<br>Join in order counting forwards and backwards<br><br>**Begin to order number names**<br>Model saying 1,2,3 in play<br>Copy the sequence 1,2 and 3<br>Begin to count actions<br>Say number names in order<br>Begin to recognise that anything can be counted | **Shapes and Objects**<br>Explore and play with shapes<br>Put shapes and blocks into position<br>Select shapes<br>Explore and describe natural shapes and objects<br>Find and collect objects for a purpose<br>**Explore Repeats**<br>Listen to repeats in songs and stories<br>Join in songs with repeats<br>Clap along to songs<br>Make line patterns and own sequences<br>Choose blocks to build roads and towers<br><br>**Join in with repeats**<br>Join in with repeated actions, songs and stories<br>Sing some refrains independently<br>Have a sense of daily routines<br>Say what happens next<br>Make arrangements in art |

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| | **Subitising 1,2,3**<br>Notice images in books<br>Respond and recognise I see 1,2,3<br>Point to 1,2,3<br>Recognise 1,2,3 in well-known tales | **Explore position and space**<br>Respond to simple language of position<br>Arrange blocks in chosen position<br>Select shapes for a space<br>Recognise when 2 objects are the same<br>Explore and describe shapes and objects<br>Sort shapes and objects into simple categories |
| Spring | **Subitising 1,2,3**<br>Copy fingers to show 1,2,3<br>Show 1 finger when seeing 1 item in stories<br>Show 2 or 3 fingers when seeing 2 or 3 in stories<br>Show 1,2,3 on fingers when asked<br><br>**Counting 3**<br>Make actions when saying counting words<br>Move fingers when saying counting words<br>Count up to 3 objects from rhyme<br>Notice number symbols as labels<br>Label amounts as 1 and not 1<br>Label amounts as 1,2 or 3<br><br>**Counting 1,2,3**<br>Choose a group to count<br>Take 2 out from a group<br>Give others 2 items<br>Give others 3 items<br>Count 3 objects with one to one correspondence<br><br>**Subitising to 3**<br>Become familiar with dot patterns<br>Say when there is one dot, 2 dots, 3 dots<br>Recognise 1, 2 and 3 in different arrangements | **Explore position and routes**<br>Explore shape resources<br>Explore more complex inset jigsaws<br>Talk about simple positions<br>Move into simple positions<br>Move through positions<br>Follow simple small world routes<br><br>**First Patterns**<br>Explain simple pattern arrangements<br>Make roads and bridges with intent<br>Make simple line patterns with objects<br>Make simple pattern arrangements<br>Show interest in pattern and shape<br><br>**Match , talk, push and pull**<br>Match simple shapes<br>Push some shapes and blocks together<br>Make simple arrangements<br>Talk and arrangements<br>Follow simple routes outside<br>Follow toys around a simple route |

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| | **Comparing and sorting**<br>Notice when two collections are the same<br>Make collections of small objects the same<br>Make collections of large objects the same<br>Recognise two collections are the same using large and small objects<br>Make collections the same using large and small objects<br>Sort and talk about their own collections | |
| Summer | **Subitising**<br>Make dot patterns<br>Be introduced to subitising games<br>Copy sets of sounds<br>Listen to and repeat sounds with fingers<br>Listen to and represent sounds with resources<br><br>**Counting to 5**<br>Sing rhymes and join in with movements<br>Move props to 5<br>Move props back from 5<br>Show fingers to 5<br>Begin to count 5 objects with one to one correspondence<br>Match numerals to quantities when acting out songs<br><br>**Counting 1,2,3,4,5**<br>Count out up to 5 objects from a larger group<br>Explore counting to 5 in different ways<br>Verbally count to a given number<br>Label objects with numerals<br>Independently show fingers to 5<br>Begin to make marks to represent quantities<br><br>**Match sort and compare**<br>Compare up to 5 different objects | **Starting to Puzzle**<br>Complete shape match puzzles<br>Complete simple jigsaws<br>Match objects to pictures<br>Match objects to shadows<br>Explore objects and small world from different positions<br>Make simple routes in small world with lines and curves<br><br>**Making Patterns**<br>Sing their own song independently<br>Clap in time to a beat<br>Make and talk about movement patterns<br>Talk about objects in patterns and arrangements<br>Copy AB patterns with support<br>Continue AB patterns with support<br><br>**Make own patterns**<br>Continue AB patterns<br>Create own AB patterns<br>Notice an error in a patterns<br>Build constructions with simple enclosures<br>Copy simple repeated constructions<br>Begin to sequence some events |

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| | Compare by matching<br>Make the same set by matching<br>Recognise attributes of objects<br>Begin to sort objects to a type | |
| | **Reception** | |
| Autumn 1 | Recognise up to three objects, items/pictures, as 3 that are arranged in different ways<br>Make groups within 3<br>Use fingers to show amounts up to 3<br>Understand that the last number counted is the amount<br>Sing songs and count<br>Count one object for each number spoken<br>Make groups of up to 4 items<br>Compare amounts using 'more than' and 'fewer than'<br>Compare sets just by looking at them | Match, sort and compare<br><br>Talk about measure and pattern |
| Autumn 2 | Recognise up to five objects/items/pictures that are arranged in different ways<br>Counting beyond 5 up to 10<br>Recognise numerals up to 5<br>Show 5 fingers on one hand<br>Recognise that wholes are made up of parts<br>Explore different ways to make 5<br>Compare amounts by just looking<br>Compare sets by matching and knowing that when every object in a set is matched with the items in another set they contain the same number and are equal amounts<br>Counting backwards from 10<br>Begin to write numerals 1-5 | Circles and triangles<br><br>Shapes with 4 sides |
| Spring 1 | Recognise up to five objects/items/pictures that are arranged in different ways<br>Explore ways five can be arranged<br>Experience patterns which show '1 more'<br>Show fingers to match arrangements | Mass and capacity<br><br>Length, height and time |

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| | Count to 20 and beyond and backwards<br>Use fingers to show quantities between 5 and 10<br>Order numbers<br>First, second, third, fourth<br>Explore ways to make 6<br>Understand that numbers within 10 can be made up of ' 5 and a bit'<br>Compare sets by matching<br>Identify when a sets are equal | |
| Spring 2 | Explore symmetrical patterns linking to doubles<br>Work with numbers within 10<br>Count beyond 20<br>Explore odd and even numbers<br>Link even numbers to doubles<br>Explore the composition of numbers within 10<br>Compare numbers and understand the position of a number in the number system<br>Begin to write numerals 1-6 | Exploring 3 D shapes |
| Summer 1 | Recognise when the same number is arranged in a different way up to 10<br>Know when to count and when you can say the amount by looking at it (subitising)<br>1 more<br>Counting to 20 and beyond with and without objects<br>Explore how 10 can be made<br>Ordering sets of objects using first, second, third<br>Begin to write numerals 1-10 | Manipulate, compose and decompose |
| Summer 2 | In this half-term, the children will consolidate their understanding of concepts previously taught through working in a variety of contexts and with different numbers. | Visualise, build and map |

**What this looks like in KS1:**

*See ARE booklets for further detail on Year group objectives. https://www.allsaints.herts.sch.uk/website/ks1_-_y1__y2/569708*
*See Calculation Policy for further detail https://www.allsaints.herts.sch.uk/website/school_policies/148594*

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This involves working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools]. At this stage, pupils develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching also involves using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Through Year 1 children build upon the secure understanding of the numbers to ten from EYFS. The Mastering number programme (NCETM) is used to embed this and develop confidence and mental fluency. The Mastering number programme (NCETM) is followed in both Year 1 and 2 in addition to a daily maths session.

When teaching telling the time at All Saints we use the approach of introducing one hand at a time to ensure children have a secure understanding of the function of each hand. We teach the hour hand and the minute hand separately.

In KS1 the teaching of Maths includes:

- 4 sessions per week of Mastering Number (NCETM) in addition to the maths lesson
- Use of teacher talk-what is the same? What is different?
- Use of non-examples
- Use of stem sentences
- Use of practical equipment
- Use of a variety of representations
- Modelling use mathematical vocabulary
- Use of engaging resources and displays
- Use of a variety of representations
- Use of White Rose resources
- Use of White Rose National Curriculum Progression file://k9server/User$/teachers/ABrooks/Maths_Whole_School_Progression.pdf

- Use of Fluent in five/revision starters (Masterthecurriculum) resources to recap on prior learning (Yr 2)
- Use of challenges to deepen understanding
- Use of low stake assessments such as quizzes
- Prioritising Ready to Progress objectives

What this looks like in lower KS2:

*See ARE booklets for further detail on Year group objectives.*
*https://www.allsaints.herts.sch.uk/website/lower_ks2_y3__y4/570058*
*See Calculation Policy for further detail https://www.allsaints.herts.sch.uk/website/school_policies/148594*

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number. By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

What this looks like in Upper KS2:

*See ARE booklets for further detail on Year group objectives. https://www.allsaints.herts.sch.uk/website/upper_ks2_y5__y6/570059*
*See Calculation Policy for further detail https://www.allsaints.herts.sch.uk/website/school_policies/148594*

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

In KS2 the teaching of Maths includes:

- Use of teacher talk-what is the same? What is different?

- Use of non- examples
- Use of stem sentences
- Modelling use of mathematical vocabulary
- Use of engaging resources and displays
- Use of a variety of representations
- Use of White Rose resources
- Use of White Rose National Curriculum Progression plan file://k9server/User$/teachers/ABrooks/Maths_Whole_School_Progression.pdf
- 4 sessions per week of Mastering Number (NCETM) in addition to the maths lesson (Yrs 3,4 and 5)
- Use of Fluent in five/revision starters resources to recap on prior learning
- Use of challenges to deepen understanding
- Frequent times table practice (greater focus in Yr 3 and 4)
- Assessment through end of unit tests
- Assessment through end of term tests
- Prioritising Ready to Progress objectives