	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)
- Use of White Rose Early Years resources
- Use of Number blocks BBC

	Nursery	
Autumn	Changes of amount in a group of up to 3 items. Count in every day contexts, sometimes skipping numbers. Finger rhymes with numbers. Say one number for each item in order: 1,2,3,4,5. Show 'finger numbers' up to 4. Fast recognition of up to 3 objects, without having to count them individually ('subitising'). Recite numbers past 5. Join in with number songs, attempting to represent numbers using fingers where appropriate.	**Measures** Size and weight etc. using gesture and language – bigger/smaller, higher/lower, heavier/lighter than… Time -Can talk about 'My day' **Shape** Patterns- spots and stripes and arrange things in patterns. Complete inset puzzles. *Sorting/matching* - sort groups of objects according to different criteria Explore 2D shapes (for example, circles, rectangles, triangles) using language such as bigger/ smaller, longer/shorter, same length, same size Select 3D shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. Can make comparisons relating to size. Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc.
Spring	Count objects, actions and sounds. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 4. Recite numbers to 10 Demonstrate understanding that we use one number for each item, when counting.	**Shape** Copy and continue a simple ABAB pattern – stone, leaf, stone, leaf **Spatial Awareness** Discuss routes and locations, using words like 'in front of' and 'behind'. Describe a familiar route. **Measures** - understand *first/next* Make comparisons between objects relating to length and weight.
Summer	Write numerals 0-10 Solve real world mathematical problems with numbers up to 3. Begin to recognise that each number is one more than the one before. Compare quantities and sometimes use language: 'more than', 'fewer than'. Subitise to 3. Represent 1 - 3 on fingers, on a tens frame and with objects. "more" in practical contexts. Explore making numbers that can be made of smaller numbers through play.	**Measures** Describe the size or shape of real-life objects using simple mathematical vocabulary, e.g. *bigger/smaller, round/straight.* Everyday language to discuss length, size, height, weight, time, position and capacity. Use this language to make simple observations, e.g. this is heavier than that. **Pattern** Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. **Shape** - correct mathematical language to describe 2D and 3D shapes using common language (e.g. curved/straight, side/edge, flat/curved). Know some common 2D and 3D shapes. **Measures**- Sequence 3 events.

	Reception	
Autumn 1	Recognise up to three objects, items/pictures, as 3 that are arranged in different ways Make groups within 3 Use fingers to show amounts up to 3 Understand that the last number counted is the amount Sing songs and count Count one object for each number spoken Make groups of up to 4 items Compare amounts using 'more than' and 'fewer than' Compare sets just by looking at them	Shape Describe the size or shape of real-life objects using simple mathematical vocabulary, e.g. round/straight, bigger /smaller Sorting/matching - sort groups of objects according to different criteria -Identify straight and curved sides on 2D shapes, and flat and curved faces on 3D shape Use shapes to make pictures/models and copy Uses some shape names appropriately and prepositional language- in, on, under Everyday language to talk about and compare size and shape. Recognises a repeated pattern and is beginning to create own patterns and arrangements. Time - understand first/next Understand yesterday/today/tomorrow. Recite days of the week . Measure - use and understand the terms short/tall, large/small. Sequence 4 items according to these criteria. Creates a repeated pattern with colour and shape.
Autumn 2	Recognise up to five objects/items/pictures that are arranged in different ways Counting beyond 5 up to 10 Recognise numerals up to 5 Show 5 fingers on one hand Recognise that wholes are made up of parts Explore different ways to make 5 Compare amounts by just looking 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 Counting backwards from 10 Counting up to ten objects	
Spring 1	Recognise up to five objects/items/pictures that are arranged in different ways Explore ways five can be arranged Experience patterns which show '1 more' Show fingers to match arrangements Count to 20 and beyond and backwards Use fingers to show quantities between 5 and 10 Order numbers First, second, third, fourth Explore ways to make 6 Understand that numbers within 10 can be made up of ' 5 and a bit' Compare sets by matching Identify when a sets are equal	Spatial Awareness Prepositions - in, on, under, beside, in front of, behind, forwards, backwards, up, down, across Time - before/after, night/day Shape - Select, rotate and manipulate shapes to match a picture, fit an outline or create patterns. Pattern - continue a simple AB, ABC pattern Uses mathematical language to compare and talk about shape and size.

Spring 2	Explore symmetrical patterns linking to doubles Work with numbers within 10 Count beyond 20 Explore odd and even numbers Link even numbers to doubles Explore the composition of numbers within 10 Compare numbers and understand the position of a number in the number system	**Measures** Use everyday language to discuss length, size, height, weight, time, position and capacity. Use this language to make simple observations, e.g. this is heavier than that. **Shape** – Class teacher to use correct mathematical language to describe 2D and 3D shapes (e.g. vertices, sides, edges, faces, flat/curved). Children may use informal language to describe the properties of shapes.
Summer 1	Recognise when the same number is arranged in a different way up to 10 Know when to count and when you can say the amount by looking at it (subitising) 1 more Counting to 20 and beyond with and without objects Explore how 10 can be made Ordering sets of objects using first, second, third	Shape/Spatial Reasoning 2D shapes –match shapes, copy shape pictures, make own shape pictures. Use squares, circles, triangles, rectangles 3D shapes Combine shapes to make models, copy models and make own. Use cubes, cylinders cuboids, cones, pyramids Combine 2D shapes to make new shapes, use squares, rectangles, stars, triangles
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.	Shape/Spatial Reasoning Make models using 3D shapes and use positional language-in, on, under, behind, next to, in front of Draw maps from stories Draw maps of own models

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.

In KS1 the teaching of Maths includes:

- 3 -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 supported by NCETM progression
- 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 supported by NCETM progression
- Use of White Rose National Curriculum Progression plan file://k9server/User$/teachers/ABrooks/Maths_Whole_School_Progression.pdf
- Use of Fluent in five/revision starters (Masterthecurriculum) 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