St Alphege CE Infant School

Maths Progression Map

		EYFS		Year 1	Year 2
Number and Place Value	Counting	count from 0-10 Represent numbers with fingers Recognise anything can be used to count	count from 0-20 count an irregular arrangement of up to 10 objects	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals count in multiples of twos, fives and tens given a number, identify one more and one less	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward

	Comparing Numbers	compare two groups of objects	compare quantities of identical objects compare quantities of non-identical objects compare groups up to 10 use the language of more than and fewer than	use the language of: equal to, more than, less than (fewer), most, least	compare and order numbers from 0 up to 100; use <, > and = signs
	Identifying, representing and estimating numbers	match numeral and quantity	select the correct numeral to represent 1-5, then 1-10 objects	identify and represent numbers using objects and pictorial representations including the number line	identify, represent and estimate numbers using different representations, including the number line
	Reading and writing numbers	show an interest in writing numbers mark making to represent numbers	write the correct numeral for a given number	read and write numbers from 1 to 20 in numerals and words.	read and write numbers to at least 100 in numerals and in words

	Understanding place value				recognise the place value of each digit in a two-digit number (tens, ones)
	Problem Solving				use place value and number facts to solve problems

		Nursery	Reception	Year 1	Year 2
Addition and Subtraction	**Number bonds**		Bonds to 5

Number bonds 10 (tens frame)

Number bonds to 10 (part-part whole model) | represent and use number bonds and related subtraction facts within 20 | recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 |
| | **Mental Calculations** | | Find one more and one less

Combine two groups to find the whole

Adding by counting on

Subtract by counting back | add and subtract one-digit and two-digit numbers to 20, including zero

read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods) | add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
*   a two-digit number and ones
*   a two-digit number and tens
*   two two-digit numbers
*   adding three one-digit numbers

show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot |
| | **Written methods** | | | read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation) | |

	Inverse operaitons, estimating and checking answers				recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
	Problem Solving		Sorting into groups	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9	solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

		Nursery	Reception	Year 1	Year 2
Multiplication and Division	**Multiplication and division facts**		Doubling Halving and sharing Odds and evens	count in multiples of twos, fives and tens	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
	Mental calculations				show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
	Written Calculation				calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
	Problem Solving			solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

		Nursery	Reception	Year 1	Year 2
Fractions	Counting in fraction steps				Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line
	Reasoning fractions			recognise, find and name a half as one of two equal parts of an object, shape or quantity recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
	Equivalence				write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.

		Nursery	Reception	Year 1	Year 2
Measurment	Comparing and estimating			compare, describe and solve practical problems for: * lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] * mass/weight [e.g. heavy/light, heavier than, lighter than] * capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] * time [e.g. quicker, slower, earlier, later] * sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	

	Measuring and calculating		Daily routine Recognise length, height and distance Understand the difference between weight and capacity	measure and begin to record the following: * **lengths and heights** * **mass/weight** * **capacity and volume** * **time** (hours, minutes, seconds**)** recognise and know the value of different denominations of **coins and notes**	choose and use appropriate standard units to estimate and measure **length/height** in any direction (m/cm); **mass** (kg/g); **temperature** (°C); **capacity** (liters/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels recognise and use symbols for pounds **(£) and pence (p)**; combine amounts to make a particular value find different combinations of coins that equal the same amounts of money **solve simple problems** in a practical context involving addition and subtraction of money of the same unit, including giving change
	Telling the time		Daily routine Order and sequence events measure short periods of time	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. recognise and use language relating to dates, including days of the week, weeks, months and years	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. know the number of minutes in an hour and the number of hours in a day.

	Converting				know the number of minutes in an hour and the number of hours in a day. (appears also in Telling the Time)

		Nursery	Reception	Year 1	Year 2
Geometry: Properties of shape	**Identifying shapes and their properties**	talk about the shapes of everyday objects	recognise 2-D and 3-D shapes; using mathematical terms selects a particular named shape	recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
	Drawing and constructing	show an interest in shape by playing with shapes	Make simple patterns Explore more complex patterns		
	Comparing and classifying	identify similarities of shapes in the environment	order two or three items by length and height order two items by weigh or capacity		compare and sort common 2-D and 3-D shapes and everyday objects

		Nursery	Reception	Year 1	Year 2
Geometry: Position and direction	**Position, direction and movement**	use positional language	describe the position of an object	describe position, direction and movement, including half, quarter and three-quarter turns.	use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)
	Pattern		Use common shapes to create patterns and build models		order and arrange combinations of mathematical objects in patterns and sequences

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Algebra	Equations			solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and **missing number problems** such as 7 = □ - 9 represent and use number bonds and related subtraction facts within 20	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and **missing number** problems. recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
	Sequences			sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening	compare and sequence intervals of time order and arrange combinations of mathematical objects in patterns