Progression in Learning Framework for Maths – KS 1

The overarching aim for **Maths** in the national curriculum is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].
At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve 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.

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

	Interface with EYFS	Yr 1 Autumn Small Steps	Yr 1 Spring Small Steps	Yr 1 Summer Small Steps	Yr 2 Autumn Small Steps	Yr 2 Spring Small Steps	Yr 2 Summer Small Steps	Interface with KS2
Number - number and place value	**Composes numbers from 1-10 using manipulatives.**	**Composes and represents numbers up to 20, using a range of different manipulatives and some pictorial representations, including jottings.**	**Reads and write numerals and words up to 60**	**Reads and write numerals and words up to 100**	**Partitions two digit numbers into a tens number and ones numbers** (uses models such as part wholes and bar models).	**Represents two digit numbers in a range of different ways using manipulatives and pictorial images.**	**Identifies, represents, partitions and estimates numbers up to 100 using manipulatives and pictorial images** (dienes, counters, money, number lines)	**Recognise the place value of each digit in a 3-digit number (100s, 10s, 1s) read and write numbers up to 1,000 in numerals and in words**
	Compares quantities up to 10 using language such as greater than, the same as and less than**.**	**Identifies one more and one less than a given number up to 20.**	**Identifies one more and one less than a given number up beyond 20.**	**Identifies one more and one less than a given number up to 100.**	**Orders pictorial representations from highest to lowest and lowest to highest.**	**Uses place value to help compare two different abstract numbers and orders numbers using < > and = symbols**	**Solve contextual problems through comparing numbers, quantities or measures.**	**Compare and order numbers up to 1,000**

Progression in Learning Framework for Maths – KS 1

	Subitises (recognises quantities without counting) quantities up to 5. **Verbally counts beyond 20.** **Describes number patterns such as odd and even numbers.**	**Fluently Subitises quantities up to 6.** **Verbally counts beyond 20, forwards and backwards from a given number** **Counts in multiples of 2's up to 20.**	**Subitises manipulatives up to 10 (knowing that there are 10 on a ten frame because it is full)** **Counts to and across 60, forwards and backwards from any given number**	**Subitises pictorial representations up to 10 (knowing it is an 8 array, by knowing there are 4 rows and 2 columns)** **Counts to and across any number within 100, forwards and backwards from any given number** **Counts in multiples of 5's (up to 50) and 10's (up to 100).**	**Applies some subitising when solving simple calculations and contextual problems.** **Counts forwards and backwards to solve simple contextual problems.** **Counts in multiples of 2's from any given number. Counts in multiples of 10's from any given number.**	**Subitises manipulatives and pictorial representations up to 20 (knowing that 2 ten dienes represents 20)** **Counts forwards and backwards to solve more complex contextual problems.** **Counts in multiples of 3 up to 30. Begins to solve contextual problems through counting in patterns.**	**Subitises fluently when solving practical and contextual problems, and is able to explain their reasoning.** **Fluently counts to solve practical and written problems, explaining their reasoning.** **Counts in steps of 2, 3, 5 from 0, and in tens from any number, forwards and backwards.**	**Solve number problems and practical problems involving these ideas** **Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number**
Number – addition and subtraction	**Adds amounts together using manipulatives within 10.** **Subtracts an amount using manipulatives**	Adds amounts using **manipulatives and pictorial representations** up to 13. Subtracts by taking away an amount **using manipulatives**	Adds one digit numbers **using manipulatives and pictorial representations (jottings)** up to 20. Subtracts one-digit amounts **using manipulatives and**	**Adds one-digit and 2-digit numbers up to 20** (including 0) **using manipulatives and pictorial representations** (jottings) **Subtracts one-digit and 2-digit numbers up to 20** (including 0)	**Adds three, one-digit numbers using jottings and known number facts. Adds two-digit and one-digit numbers using manipulatives and pictorial representations. Begins to solve simple problems with these calculations.** **Subtracts two-digit and one-digit numbers using**	**Adds two-digit numbers and tens. Adds two, two-digit numbers using manipulatives and pictorial representations. Begins to solve simple problems with these calculations.** **Subtracts one and two digit numbers from two-digit**	**Uses manipulatives, pictorial representations and mental facts to solve addition problems including bridging over a ten.** **Uses manipulatives, pictorial representations and**	**Add and subtract numbers mentally, including:** **a three-digit number and 1s** **a three-digit number and 10s** **a three-digit number and 100s** **add and subtract numbers with**

Progression in Learning Framework for Maths – KS 1

	within 10 in a practical context.	**(numicon, dienes)** within 13.	**Pictorial Representations (jottings)** within 20.	**using manipulatives and pictorial representations** (jottings)	**manipulatives and pictorial representations.**	**numbers needing to bridge over a ten** (	**mental facts to solve subtraction problems including bridging over a ten.** though exchanging) **using manipulatives and pictorial representations** (jottings)**.**	**up to 3 digits, using formal written methods of columnar addition and subtraction**
	Recalls all number bonds to 5, including some subtraction facts. Recalls some number bonds to 10.	**Recalls all number bonds to 10 fluently, including subtraction facts.**	**Uses and represents some number bonds to 20, starting to link these to their own subtraction facts.**	**Uses and represents all number bonds to 20, including related subtraction facts.**	**Recalls numbers bonds to 100 eg. 10+90=100 ect.**	**Begins to add using number bond facts such, (I know that 3 + 7 = 10, so 13+17 = 30).**	**Fluently recalls and uses numbers bonds to 20 in all contexts, and uses related facts up to 100.**	**Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction**
	Understands + - and = symbols.	**Reads and understands addition and subtractions sentences within 10. Has a go at solving these calculations.**	**Writes addition and subtraction sentences within 10 using +, - and = confidently.**	**Reads, writes and interprets addition and subtraction calculations, involving + - and = within 20.**	**Reads, writes and interprets addition and subtraction calculations, involving + - and = within 100.**	**Reads and interprets one-step contextual problems and writes down the corresponding addition/subtraction sentence in order to solve the problem.**	**Checks through answers, showing that addition is commutative and that subtraction is not.**	**Estimate the answer to a calculation and use inverse operations to check answers**
Number – multiplication and division	**Doubles some single digit numbers (double 3 is 6)**	**Notices number patterns when counting in 2's.**	**Uses manipulatives to multiply an amount (creates arrays and groups).**	**Begins to Solve practical one-step Multiplication problems, using manipulatives, pictorial**	**Represents multiplication as a form of repeating addition. Draws jottings to help solve a multiplication**	**Begins to use counting strategies to recall multiplication facts for the 2, 5 and 10 X table, when**	**Recalls multiplication facts for the 2, 5 and 10 X table.** Solves contextual problems using arrays, repeated addition	**Recall and use multiplication facts for the 3, 4 and 8 multiplication tables**

Progression in Learning Framework for Maths – KS 1

				representations and arrays, with support	**sentence or word problem.**	**solving contextual problems.**	and mental facts. Shows that multiplication is commutative.	
	Shares a quantity equally into groups.	**Accurately counts the whole amount of manipulatives and shares equally into groups of 2.**	**Uses manipulatives to share a quantity into equal groups of 2, 5 an d 10.**	**Begins to Solve practical one-step Division problems, using manipulatives, pictorial representations and arrays,** with support	**Represents division as a form of equal sharing into groups. Draws jottings to help solve a division sentence or word problem.**	**Begins to use counting strategies to recall division facts for the 2, 5 and 10 X table, when solving contextual problems.**	**Recalls division facts for the 2, 5 and 10 X table.** Solves contextual problems using arrays, repeated addition and mental facts. Shows that division is not commutative.	**Recall and use division facts for the 3, 4 and 8 multiplication tables**
	Begins to group objects into pairs (there are 2 groups of 2)		**Begins to understand the language used in multiplication and division (times table, multiply, group, share ect)**	**Identifies and notices the X and ÷ symbols in calculations.**	**Begins to write simple multiplication and division sentences with x ÷ and = symbols for the 2, 5 and 10 X table.**	**Reads and interprets one-step contextual problems and writes down the corresponding division sentence in order to solve the problem.**	**Fluently calculates and writes multiplication and division sentences using x, ÷ and =.**	**Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods**
Number – fractions	**Describes how to halve physical objects so they are equal.**		**Finds half of a quantity through equal sharing. Halves lengths and shapes. Begins to recall halves of**	**Recognises and finds half of an object, length, shape and a quantity.**		**Recognises and finds half and quarter of an object, length or shape.**	**Confidently uses a strategy to write simple fractions for quantities and numbers eg. 1/2 of 6 = 3.**	**count up and down in tenths; recognise that tenths arise from dividing an object into**

Progression in Learning Framework for Maths – KS 1

			numbers eg. Half of 8 = 4. Understands that to find a quarter, half and half again. Applies this to finding quarter of lengths and quantities.					10 equal parts and in dividing one-digit numbers or quantities by 10 recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
	Begins to show awareness of sharing equally into more than 2 groups.			Recognises and finds quarter as one of 4 equal parts of an object, length, shape and a quantity.		Understands equivalent fractions - that 2/4 = 1/2/Begins to recognise and find 3/4 of objects, lengths, shapes and a quantities.	Recognises, finds, names and writes the fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape and a quantity.	
Measurement	Begins to sequence events in their day. Shows an awareness of what day it is, what day comes next ect. Begins to understand how long a minute is. Orders 2-3 objects by length and height Orders 2 objects by weight	Sequences days of the week. Begins to show an awareness of the time it takes are that are relevant to them (how long lunchtime is ect) Uses a ruler correctly to measure lengths, uses tape measures correctly to measure heights within 20.	Sequences months of the year. Begins to solve problems using days of the week and months of the year. Weighs and compares more than 2 objects	Sequences events in chronological order. Uses language relating to dates, days of the week, months and years. Compares, describes, measures, records and solve practical problems for; *Lengths and Heights* Compares, describes, measures, records and solve practical	Begins to work out the duration of an event. Reads scales with full intervals when measuring using equipment such as rulers, tape measures and a trundle wheel	Begins to convert time such as minutes into hours and minutes. Reads scales where intervals are not always shown, up	Compares and sequences intervals of time. Knows the number of minutes in an hour and the number of hours in a day. Chooses and use appropriate standards units to estimate, measure and compare; Length and Height in any direction Mass	Know the number of seconds in a minute and the number of days in each month, year. Compare durations of events [for example, to calculate the time taken by particular events or tasks] Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Measure the perimeter of

Progression in Learning Framework for Maths – KS 1

				problems for; *Mass and Weight*		**to and over 100, using equipment such as weighing scales,**	**Capacity** **Temperature** (using a full range of measuring equipment)	**simple 2-D shapes.**
	Order 2 objects by capacity		**Begins to measures the volume of liquid and compares the capacity of different containers.**	**Compares, describes, measures, records and solve practical problems for; *Capacity and Volume***	**Reads scales with full intervals when measuring using equipment such as jugs and thermometers**	**Reads scales where intervals are not always shown, up to and over 100, using equipment such as jugs and thermometers.**		
	Understands that clocks are used to tell the time and appear on a range of appliances and devices.			**Tells the time to the hour. Tells the time to half past the hour Moves or draws hands on a clock face to show times to the hour and to half an hour.**			**Tells and writes the time in 5 minute intervals.**	**Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks**
	Handles money and recognises a 1p coin.	**Recognises all of the bronze coins (1p and 2p) Recognises all of the silver coins.**	**Represents 5p as 5 ones and 10p as one ten. Begins to represent 20p.**	**Recognises all physical British Coins and Notes**	**Tells and writes the time for quarter past the hour. Tells and writes the time for quarter to the hour.**		**Uses symbols for £ and p, and combines amounts to make a value.**	**Add and subtract amounts of money to give change, using both £ and p in practical contexts**
	Uses 1p coins to make quantities and amounts.	**Represents 1p as a ones.**	**Represents 2p as 2 ones, 10p as 10 ones, recognising the value.**	**Knows the value of the British Coins and Notes.**	**Uses money as a resources to help with representing numbers, or in addition and subtraction.**	**Uses a combination of coins and notes to make a value. Finds 2 different combinations that equal the same amounts of money**	**Finds and records different combinations of coins that equal the same amounts of money. Solves simple, practical problems involving the addition and**	

Progression in Learning Framework for Maths – KS 1

							subtraction of money and give change.	
Geometry – properties of shapes	**Identifies and selects a common named shape. Begins to use mathematical names for 2D shapes.** **Begins to use mathematical names for 3D shapes.** **Begins to use mathematical terms to describe shapes. Uses shapes to create and recreate patterns and build models.**	**Identifies most** of the 2D shapes. (circles, squares, rectangles and triangles, pentagons, hexagons and octagons)	**Identifies most** of the 3D shapes. (sphere, cube, cuboid, cylinder, pyramids, prism and cone) **Talks about what 3D shapes can do (roll, stack) and what they might be used for. Begins to reason with 2D and 3D Shapes (finding the odd one out from their properties ect)**	**Recognises and names all common 2D Shapes** **Recognises and names all common 3D shapes** **Begins to compare and describe similarities and differences between shapes. Begins to recognise 2D shapes on the faces of 3D shapes.**	**Identifies sides, and vertices on 2D shapes.** **Sorts 2D shapes into categories.**	**Identifies and begins to draw vertical lines of symmetry on 2 shapes (through fractions).** **Identifies faces, vertices and edges on 3D shapes.** **Explains and compares the properties of 3D shapes.**	**Explains the properties of 2D shapes, including sides, vertices and symmetry.** **Explains the properties of 3D shapes, including faces, vertices and edges. Identifies 2D shapes on the surface of 3D shapes.** **Compares and sorts common 2D and 3D shapes as well as everyday objects.**	**Draw 2-D shapes and make 3-D shapes using modelling materials. Identify whether angles are greater than or less than a right angle identify horizontal and vertical lines and pairs of perpendicular and parallel lines**
Geometry – position and direction	**Describes their relevant position eg, behind, next to ect.** **Describes their own direction when they are**	**Describes the position, direction and movement of an object** **Begins to use language such as left and right. Moves**		**Describes the position of people, animals or objects** **Describes the direction and movement of people,**	**Describes how to move an object from one position to another.** **Rotates themselves in all turns, clockwise and anticlockwise.**		**Through positioning, orders and arranges combinations of objects into patterns and sequences.** **Describes direction and movement**	**Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that 2 right angles make a half-**

Progression in Learning Framework for Maths – KS 1

	moving. Begins to identify their left and right body parts.	themselves in half and quarter interval turns. Moves themselves in a whole turn.		animals or objects. Describes whole, half and three=quarter turns of themselves and others.			Including movement in a straight line. Describes rotations as a turn, in terms of right angles for quarter, half and three-quarter turns.	turn, 3 make three-quarters of a turn and 4 a complete turn.
Statistics						Count objects in categories to answer questions about some data.	Interprets and constructs simple pictograms, tally charts and block diagrams. Totals and compares categorical data.	Interpret and present data using bar charts, pictograms and tables. Solve one-step and two-step questions [for example 'How many more?' and 'How many fewer?'.
Milestone 1 – Year 1	I can represent numbers up to 20 using a range of different manipulatives and some pictorial representations, including jottings. I can identify one more and one less than a given number up to 20. I can subitise quantities up to 6. I can verbally counts beyond 20, forwards and backwards from a given number. I can counts in multiples of 2's up to 20. I can add and subtract amounts using manipulatives and pictorial representations up to 13. I can recall all number bonds to 10 fluently, including subtraction facts. I can read and understand addition and subtractions sentences within 10. I can share equally into groups of 2. I can sequences days of the week. I can use a ruler correctly to measure lengths, uses tape measures correctly to measure heights within 20. I can recognise all of the bronze coins and silver coins. I can identify most of the 2D shapes; (circles, squares, rectangles and triangles, pentagons, hexagons and octagons). I can describes the position, direction and movement of an object. I can begin to use language such as left and right.							
Milestone 2 – Year 1	I can read and write numerals and words up to number 60. I can identify one more and one less than a given number up beyond 20. I can subitise manipulatives up to 10. I can count to and across 60, forwards and backwards from any given number. I can add and subtract one digit numbers using manipulatives and pictorial representations (jottings) up to 20. I can use and represent some number bonds to 20, starting to link these to their own subtraction facts. I can writes addition and subtraction sentences within 10, using +, - and = confidently. I can uses manipulatives to multiply an amount and share a quantity into equal groups of 2, 5 and 10. I can begin to understand the language used in multiplication and division (times table, multiply, group, share). I can find half of a quantity through equal sharing. I can begin to recall halves of numbers eg. Half of 8 = 4. I understand that to find a quarter, half and half again. I can sequence months of the year and begin to solve problems using days of the week and months of the year. I can measure the volume of liquid and compare the capacity of different containers. I can weighs and compare more than 2 different objects of different weight. I can represent 5p as 5 ones and 10p as one ten. I can identify most of the 3D shapes (sphere, cube, cuboid, cylinder, pyramids, prism and cone). I can talk about what 3D shapes can do (roll, stack) and what they might be used for.							
Milestone 3 – Year 1	I can read and write numerals and words up to 100. I can identify one more and one less than a given number up to 100 and count to and across any number within 100, forwards and backwards from any given number. I can subitise pictorial representations up to 10. I can count in multiples of 5's (up to 50) and 10's (up to 100). I can add and subtract one-digit and 2-digit numbers up to 20 (including 0) using manipulatives and pictorial representations (jottings). I can represent all number bonds to 20, including related subtraction facts. I can read, write and interpret addition and subtraction calculations, involving + - and = within 20. I can begin to solve practical one-step Multiplication & Division problems, using manipulatives, pictorial representations and arrays, with support. I can identify and notice the X and ÷ symbols in calculations. I can recognise and finds half of an object, length, shape and a quantity and find 1 quarter as one of 4 equal parts of an object, length, shape and a quantity. I can sequences events in chronological order and use language							

Progression in Learning Framework for Maths – KS 1

	relating to dates, days of the week, months and years. I can compare, describe, measure, record and solve practical problems for; Lengths and Heights, Mass and Weight and Capacity and Volume. I can tell the time to the hour and to half past the hour. I can move or draw hands on a clock face to show times to the hour and to half an hour. I can recognise and know the value of all physical British Coins and Notes. I can recognise and name all common 2D Shapes and 3D shapes. I can begin to compare and describe similarities and differences between shapes. I can describe the position and direction of people, animals or objects. I can describe whole, half and three=quarter turns of themselves and others.
Milestone 1 – Year 2	I can partitions two digit numbers into tens number and ones. I can order pictorial representations from highest to lowest and lowest to highest. I can apply some subitising when solving simple calculations and contextual problems. I can count forwards and backwards to solve simple contextual problems. I can count in multiplies of 2's and 10's from any given number. I can add three, one-digit numbers using jottings and known number facts. I can add two-digit and one-digit numbers using manipulatives and pictorial representations. I can subtract two-digit and one-digit numbers using manipulatives and pictorial representations. I can recall numbers bonds to 100 eg. 10+90=100 ect. I can read, write and interpret addition and subtraction calculations, involving + - and = within 100.I can represent multiplication & division as a form of repeating addition and draw jottings to help solve a multiplication sentence or word problem. I can represent division as a form of equal sharing into groups and begin to write simple multiplication and division sentences with x ÷ and = symbols for the 2, 5 and 10 X table. I can reads some scales with full intervals when measuring, using equipment such as rulers, tape measures and a trundle wheel. I can tell and write the time for quarter past and quarter past the hour. I can use money as a resources to help with representing numbers, or in addition and subtraction. I can identify sides, and vertices on 2D shapes and sort 2D shapes into categories. I can describe how to move an object from one position to another and can rotate themselves in all turns, clockwise and anticlockwise.
Milestone 2 – Year 2	I can represent two digit numbers in a range of different ways using manipulatives and pictorial images and use place value to help compare two different abstract numbers and orders numbers using < > and = symbols. I can subitises manipulatives and pictorial representations up to 20. I can count forwards and backwards to solve more complex contextual problems and can count in multiples of 3 up to 30. I can add two-digit numbers and tens. Adds two, two-digit numbers using manipulatives and pictorial representations and begin to solve simple problems with these calculations. I can subtract one and two digit numbers from two-digit numbers. I can begin to add using number bond facts such, (I know that 3 + 7 = 10, so 13+17 = 30). I can begin to use counting strategies to recall multiplication & division facts for the 2, 5 and 10 X table, when solving contextual problems. I can recognise and finds half and quarter of an object, length or shape. I now understand equivalent fractions – eg 2/4 = ½. I am beginning to recognise and find 3/4 of objects, lengths, shapes and a quantities. I can begin to convert time such as minutes into hours and minutes. I can read scales where intervals are not always shown, up to and over 100, using equipment such as weighing scales, jugs and thermometers. I can use a combination of coins and notes to make a value and find 2 different combinations that equal the same amounts of money. I can identify and begin to draw vertical lines of symmetry on 2 shapes. I can identify faces, vertices and edges on 3D shapes and explain & compare the properties of 3D shapes. I can count objects in categories to answer questions about some data.
Milestone 3 – Year 2	I can identify, represent, partition and estimate numbers up to 100 using manipulatives and pictorial images. I can subitise fluently and solve contextual problems through comparing numbers, quantities or measures and am able to explain my reasoning. I can count in steps of 2, 3, 5 from 0, and in tens from any number, forwards and backwards. I use manipulatives, pictorial representations and mental facts to solve addition and subtraction problems including bridging over a ten. I can fluently recall and use numbers bonds to 20 in all contexts, and uses related facts up to 100. I check through answers, showing that addition is commutative and that subtraction is not. I can recall multiplication & division facts for the 2, 5 and 10 X table. Solves contextual problems using arrays, repeated addition and mental facts. I can show that multiplication is commutative and division is not. I can fluently calculate and write multiplication and division sentences using x, ÷ and =. I can recognise, find, name and write the fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape and a quantity and use a strategy to write simple fractions for quantities and numbers eg. 1/2 of 6 = 3. I know the number of minutes in an hour and the number of hours in a day. I can choose and use appropriate standards units to estimate, measure and compare; length and height in any direction, mass, capacity temperature using a full range of measuring equipment. I can confidently tell and write the time for quarter past and quarter to the hour and I am becoming more confident in telling the time in 5 minute intervals. I can use symbols for £ and p, and combines various amounts to make a value. I can find and record different combinations of coins that equal the same amounts of money and solve simple, practical problems involving the addition and subtraction of money and give change. Explains the properties of 2D shapes and 3D shapes, including sides, vertices and symmetry. I can identify 2D shapes on the surface of 3D shapes and compare and sorts common 2D and 3D shapes as well as everyday objects. I can describe direction and movement including movement in a straight line. I can describe rotations as a turn, in terms of right angles for quarter, half and three-quarter turns. I can interpret and construct simple pictograms, tally charts and block diagrams and totals and compare categorical data.