Maths Long Term Plan Year 1

Year 1 Maths	
National Curriculum Objectives for Year 1	**Key Links**
Pupils should be taught: 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 should involve working with numerals, words and the 4 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.	https://resources.whiterosemaths.com/resources/year-1/ https://www.mathletics.com/uk/ Top marks Hit the Button **Recap knowledge:** Times tables 2,5,10 Number bonds t0 10/20 + - = vocabulary and alternative vocabulary

Topics		Working towards	Expected progress	Greater depth / extension	Key vocabulary
Autumn 1	Number: Place Value (within 10) Number addition and subtraction (within 10)	**Recapping EYFS** • Have a deep understanding of numbers to 5, including the composition of each number **EYFS** • To recognise addition as adding more to a give group (practically) • To recognise subtraction as taking away from a given group (practically) • To represent number stories using 10 frames.	**Recapping EYFS** • Have a deep understanding of number to 10, including the composition of each number • Recognise the signs +, - and = and explain their meaning; • Recall and represent number facts within five and some higher facts • Add and subtract numbers within ten by combining and partitioning practically • Use pictures, equipment and numbers to represent addition and subtraction stories; • Provide simple explanations of mathematical concepts;	**Recapping EYFS** •Use place value knowledge within 10, to solve different types of problems that involve reasoning and problem-solving. • Read, write and understand calculations involving addition (+), subtraction (–) and equals (=) signs • Recall number facts to ten and related subtraction facts, using these to derive number facts to 20 • Add and subtract one-digit and two-digit numbers to 20, including zero; • Solve one-step problems in familiar contexts, that involve	Place Value to 10, add, take away, addition, as well as, in addition to, more, greater than/Less than, place Value to 20, take away, less, place Value to 50, number and place Value within 100.

			• Add and subtract zero.	addition and subtraction, using equipment, pictures and models • Use number facts to solve missing number problems.	
Progression 	**EYFS expectations:** • Have a deep understanding of number to 10, including the composition of each number • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity • To use real objects to see that a quantity can be changed by adding more or taking away within 10 • To represent number stories using ten frames and fingers within 10. **Year 2 expectations:** • Count forwards and backwards in steps of two, three and five from zero • Count forwards and backwards in steps of ten from any number • Know the value of the tens and ones in a two-digit number • Partition two-digit numbers into different combinations of tens and ones • Identify, represent and estimate two-digit numbers using a range of representations • Compare numbers using <, > and = signs • Order numbers up to 100 • Read and write numbers to at least 100 in numerals and in words • Use knowledge of place value to explain concepts of number. • Use number and place value skills fluently to solve a variety of problems • Recall number facts to and within ten and related subtraction facts. • Use these to derive number facts to and within 20 and 100 • Add and subtract within 100: a two-digit number and ones, a two-digit number and tens, two two-digit numbers • Add three one-digit numbers using efficient strategies • Understand that addition is commutative but subtraction is not, and explain what this means • Use the inverse relationship between addition and subtraction to solve problems and check answers to calculations • Solve addition and subtraction problems, in the context of quantities and measures, using equipment, pictures and mentally.				
Cross curricular links / examples	**History - grouping toys/old toys talking about how old they are in terms of years,** **Science - grouping by material type, experiment how long things take (i.e. ice melting, etc)**				
<u>Autumn 2</u>	*Number: Addition and subtraction (within 10) - continuing* Geometry: Shape Number Place Value (within 20)	• Recognise and name common 2D and 3D shapes • Make pictures and patterns with 2D shapes • Make models with 3D shapes. • Count forwards up to 100. • Read and write numbers up to and beyond 50 in numerals. • Read and write numbers from one to twelve in words. • Count in twos, fives and tens up to 50 using objects. • Say one more or one less than a number up to 20.	•Recognise 2D and 3D shapes in real life • Recognise 2D and 3D shapes in different sizes and orientations. •Count up to and beyond 100, forwards and backwards. • Count, read and write numbers up to 100 in numerals. • Read and write numbers from one to 20 in words. • Count in twos, fives and tens up to the tenth multiple. • Say	•Use shapes to solve different types of problems that involve reasoning and problem-solving. • Use reasoning about numbers and place value to answer increasingly complex questions. • Explain ideas fluently using mathematical vocabulary and make generalisations. • Solve number and place value problems of greater	Faces, edges, sorting, pattern, sides, shape, orientation More, greater than/less than, place Value to 20, less, place value to 50, number and place value within 100

		• Identify and represent numbers in different ways. • Provide simple explanations of mathematical concepts.	one more or one less than a given number up to 100. • Compare numbers using the language: equal to, more than, less than, fewer, most, least • Identify and represent numbers up to 100 in different ways. • Use their knowledge of place value to explain concepts of number. • Use number and place value skills fluently to solve a variety of problems.	complexity by applying procedures fluently. • Count forwards and backwards in twos, fives and tens from any multiple. • Count forwards and backwards through odd numbers. • Explore and investigate numbers greater than 100 by applying their understanding of place value.	
Progression 	**EYFS expectations:** • Have a deep understanding of number to 10, including the composition of each number • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity • To use real objects to see that a quantity can be changed by adding more or taking away within 10 • To represent number stories using ten frames and fingers within 10 • To recognise properties of 2D shapes – sides and corners • To recognise 2D shapes of different sizes and orientations • To be able to build using a range of 3D shapes • To begin to construct their own 3D shape • To begin to know some of the names of some 3D shapes – cube, sphere, pyramid, cuboid, cone, cylinder. **Year 2 expectations:** • Name common 2D and 3D shapes, use general terms to name groups of shapes, such as quadrilateral, polygon and polyhedron • Recognise regular and irregular polygons in different sizes and orientations • Describe the properties of 2D and 3D shapes using the language sides, vertices, edges and faces • Identify vertical lines of symmetry in 2D shapes • Identify 2D faces on 3D shapes • sort 2D and 3D shapes by their properties • Read and write some shape names • Create 2D shapes using geoboards and draw polygons using straight lines • Cake 2D and 3D shape patterns • Create and describe 3D shape structures			
Cross curricular links / examples	**PE - Yoga poses - counting how long they can hold a pose, holding different shape position**				
<u>Spring 1</u>	Number: Addition & Subtraction (within 20)	• Recognise the signs +, - and = and explain their meaning • Recall and represent number facts within five and some higher facts	•Read, write and understand calculations involving addition (+), subtraction (–) and equals (=) signs • Recall number facts to ten and related subtraction facts, using	•Use reasoning about number facts to answer increasingly complex questions • Explain ideas fluently using mathematical vocabulary and make generalisations, for example explaining the effect	Place Value to 10, add, take away, addition, as well as, in addition to, more, greater than/Less than, place Value to 20, take away, less, place Value to 50, number and place Value within 100.

		• Add and subtract numbers within ten by combining and partitioning practically • Use pictures, equipment and numbers to represent addition and subtraction stories • Provide simple explanations of mathematical concepts • Add and subtract zero	these to derive number facts to 20 • Add and subtract one-digit and two-digit numbers to 20, including zero • Solve one-step problems in familiar contexts, that involve addition and subtraction, using equipment, pictures and models • Use number facts to solve missing number problems.	of adding and subtracting zero or that adding one will make one more • Solve addition and subtraction problems of greater complexity by applying procedures fluently.	
	Number: Place Value within 50.	• Count forwards up to 100. • Read and write numbers up to and beyond 50 in numerals. • Read and write numbers from one to twelve in words. • Count in twos, fives and tens up to 50 using objects. • Say one more or one less than a number up to 20. • Identify and represent numbers in different ways. • Provide simple explanations of mathematical concepts.	•Count up to and beyond 100, forwards and backwards. • Count, read and write numbers up to 100 in numerals. • Read and write numbers from one to 20 in words. • Count in twos, fives and tens up to the tenth multiple. • Say one more or one less than a given number up to 100. • Compare numbers using the language: equal to, more than, less than, fewer, most, least • Identify and represent numbers up to 100 in different ways. • Use their knowledge of place value to explain concepts of number. • Use number and place value skills fluently to solve a variety of problems.	•Use reasoning about numbers and place value to answer increasingly complex questions. • Explain ideas fluently using mathematical vocabulary and make generalisations. • Solve number and place value problems of greater complexity by applying procedures fluently. • Count forwards and backwards in twos, fives and tens from any multiple. • Count forwards and backwards through odd numbers. • Explore and investigate numbers greater than 100 by applying their understanding of place value.	
Progression	**EYFS expectations:** • Have a deep understanding of number to 10, including the composition of each number • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity • To use real objects to see that a quantity can be changed by adding more or taking away within 10 • To represent number stories using ten frames and fingers within 10.				

	**Year 2 expectations:** • Count forwards and backwards in steps of two, three and five from zero • Count forwards and backwards in steps of ten from any number • Know the value of the tens and ones in a two-digit number • Partition two-digit numbers into different combinations of tens and ones • Identify, represent and estimate two-digit numbers using a range of representations • Compare numbers using <, > and = signs • Order numbers up to 100 • Read and write numbers to at least 100 in numerals and in words • Use knowledge of place value to explain concepts of number. • Use number and place value skills fluently to solve a variety of problems • Recall number facts to and within ten and related subtraction facts. Use these to derive number facts to and within 20 and 100 • Add and subtract within 100: a two-digit number and ones, a two-digit number and tens, two two-digit numbers • Add three one-digit numbers using efficient strategies • Understand that addition is commutative but subtraction is not, and explain what this means • Use the inverse relationship between addition and subtraction to solve problems and check answers to calculations • Solve addition and subtraction problems, in the context of quantities and measures, using equipment, pictures and mentally.				
Cross curricular links / examples	**English - sequencing, days of the week, time connectives**				
<u>Spring 2</u>	Measurement: Length & Height Measurement: Weight & Volume	• Describe and compare lengths, heights, capacities, and weight using simple vocabulary • Measure length, heights, capacities and weights using non-standard units • Reason about measurements to solve simple practical problems.	• Describe and compare lengths, heights, capacities, and weights using mathematical vocabulary • Measure length, heights, capacities, weights and times using standard and non-standard units • Understand fully-numbered scales, such as on a ruler or measuring jug • Reason about measurements to solve practical problems.	•Reason about lengths, heights, capacities and weights to solve more complex problems • Understand and interpret partially numbered scales such as on a ruler or measuring jug.	Length, height, taller, smaller, smallest, tallest, scale, ruler, cm, mm, capacity, amount, full, half full, nearly empty, empty
Progression 	**EYFS expectations:** • Compare and practically explore measures •To begin to estimate mass – making direct comparisons by holding, then checking with scales. •To use vocabulary – heavy, heavier than, heaviest, light, lighter than, lightest •To use vocabulary – big, little, large, small, tall, long and short •To develop a deeper understanding of full and empty to show half full, nearly full, nearly empty •To use vocabulary – tall, thin, narrow, wide, shallow. **Year 2 expectations:** • Use standard units to estimate and measure length/ height (cm/m), to the nearest unit accurately • Compare and order length, using the symbols <, > and = • Read scales on rulers and measuring vessels in divisions of ones, twos, fives and tens • Solve measurement problems involving all four operations • Use standard units to estimate and measure mass (g/kg), temperature (°C), capacity (litres/ml) to the nearest unit accurately • Compare and order mass, volume/capacity using the symbols <, > and = • Read scales on scales, thermometers, and measuring vessels in divisions of ones, twos, fives and tens				

Cross curricular links / examples	**Music - counting beats**				
<u>Summer 1</u>	Number: Multiplication & Division	• Group objects in twos, fives and tens • Count objects in twos, fives and tens • Find the total number of objects by counting in groups • Explain that a double is two of something • Make an array.	•Count the number of groups they have made • Find how many groups make a given total • Double a number using equipment • Use doubling and halving to solve problems • Make a context from an array.	• Make an array from a context • Remember some 'doubles' facts	Double, share, equal, half, quarter, four, two
	Number: Fractions	• Recognise halves and quarters of objects and shapes • Find halves and quarters of objects and shapes by splitting them into two or four equal parts • Recognise halves and quarters of quantities • Find halves and quarters of quantities by sharing objects or pictures into two or four equal groups.	• Name halves and quarters • Explain that a half is one of two equal parts that make a whole • Explain that a quarter is one of four equal parts that make a whole.	• Find different ways to halve or quarter the same object or shape • Explain and demonstrate that the halves or quarters do not always look the same, but have the same value • When shown half or a quarter of an object, find different possibilities of what the whole object could be.	Halves, quarters, equal parts, quantities, whole, sharing
Progression	**EYFS expectations:** • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. **Year 2 expectations:** • Recall and use multiplication and division facts for the two, five and ten times tables • Recognise odd and even numbers up to 100 and use reasoning to explain how to identify larger odd and even numbers • Write expressions and calculations using the multiplication (x), division (÷) and equals (=) symbols • Understand that multiplication is commutative but that division is not • Demonstrate that multiplication and division are inverse • Recall doubles and halves of numbers up to 20 • Link doubling and halving to multiplying and dividing by two and use this to solve problems • Use equipment, draw a picture, skip count, use a number line or recall facts to solve a one step multiplication or division problem • Understand that fractions are equal parts of a whole • Name, find and write 1/3 of a shape or quantity • Name, find and write 1/4, 2/4 and 3/4 of a shape or quantity • Identify how many				

	halves, thirds and quarters make a whole • Recognise the equivalence of one-half and two-quarters • Complete simple fraction sentences • Count in halves.				
Cross curricular links / examples	**Science - seasons**				
<u>Summer 2</u>	Geometry: Position and Direction	• Describe where things are using the language of position and direction.	• Describe turns, including quarter, half and whole turns; • Begin to recognise and use the clockwise direction to turn • Describe position including left, right, above and below • Describe movement including forwards and backwards.	• Begin to recognise and use the clockwise and anticlockwise directions to turn.	Position and direction, turn(s), clockwise, anticlockwise
	Number: Place value (within 100)	• Count forwards up to 100. • Read and write numbers up to and beyond 50 in numerals. • Read and write numbers from one to twelve in words. • Count in twos, fives and tens up to 50 using objects. • Say one more or one less than a number up to 20. • Identify and represent numbers in different ways. • Provide simple explanations of mathematical concepts.	•Count up to and beyond 100, forwards and backwards. • Count, read and write numbers up to 100 in numerals. • Read and write numbers from one to 20 in words. • Count in twos, fives and tens up to the tenth multiple. • Say one more or one less than a given number up to 100. • Compare numbers using the language: equal to, more than, less than, fewer, most, least • Identify and represent numbers up to 100 in different ways. • Use their knowledge of place value to explain concepts of number. • Use number and place value skills fluently to solve a variety of problems.	•Use reasoning about numbers and place value to answer increasingly complex questions. • Explain ideas fluently using mathematical vocabulary and make generalisations. • Solve number and place value problems of greater complexity by applying procedures fluently • Count forwards and backwards in twos, fives and tens from any multiple. • Count forwards and backwards through odd numbers. • Explore and investigate numbers greater than 100 by applying their understanding of place value.	

	Measurement: Money Measurement: Time	• Recognise some coins and notes • Put two or three simple events in chronological order • Recognise and use the names of the days of the week and know some months of the year • Tell the time to the hour on an analogue clock and draw the hands • Reason about measurements to solve simple practical problems.	• Know the value of coins and notes • Sequence familiar events in chronological order • Order the days of the week and months of the year • Tell the time to the hour and half past the hour on an analogue clock • Draw the hands on an analogue clock face to show the hour and half past the hour.	•Reason about money & time to solve more complex problems • Use an analogue clock to calculate a duration in hours • Combine coins and notes to make a given value • Interpret calendars and dates • Use appropriate vocabulary to sequence more complex events in chronological order • Calculate the difference between two times shown on analogue clock faces.	Pence (p), pounds (£), notes Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, week, fortnight, Time: hour, minute, half hour, long hand, minute hand, hour hand
Progression		**EYFS expectations:** •Have a deep understanding of number to 10, including the composition of each number •Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity •To begin to use positional language to describe how items are positioned in relation to another •To talk about day and night and organise key events in daily routines •To use vocabulary to describe when an event happens – day, night, morning, afternoon, today, tomorrow, before, after •Begin to measure time in simple ways. E.g. counting number of sleeps, using a timer to measure duration. **Year 2 expectations:** • Recognise the symbols for pounds (£) and pence (p) and use different coins to make the same amount • Solve practical addition and subtraction money problems, including giving change • Solve measurement problems involving all four operations • Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line • Distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns in clockwise and anticlockwise directions • Read and write the time on an analogue clock to the nearest 5 minutes • Know there are 60 minutes in one hour and 24 hours in one day • Compare and sequence time intervals • Solve measurement problems involving all four operations.			
Cross curricular links / examples	**English - Days of the week/months of the year**				