Maths planning document

Teagues Bridge Primary school

– Year 1

It is also supported by the Numbersense maths program providing teaching and consolidation of mental strategies for mathematics and the white rose small steps for teaching sequences. Weeks are a guideline and should be adapted for the needs of the children. Time for consolidation is designed for recapping of previous units to ensure learning in committed to the long-term memory. This can also be used to teach areas of misconceptions.

Mathematics Intent

At Teagues Bridge, our intention is **ambitious.** We aim to create strong mathematicians who have the necessary skills and understanding to tackle mathematical challenges in varying contexts, including the ability to reason and apply their knowledge to solving problems. This should mean that children are able to apply their knowledge to everyday life and can **aspire** to achieve anything that they want. We want our pupils to have strong mental manipulation and to use written strategies when appropriate.

Our philosophy for mathematics is replacing an idea that maths is lots of rules and numbers with a study of patterns and connected ideas. In early years they will build a foundation of number understanding and representation through mainly concrete and pictorial representations. The approach will be supported by in depth questioning, throughout the school to develop mastery.

Use of CPA is encouraged to ensure the curriculum is accessible for all children and that they all have the **opportunity** and are able to demonstrate their understanding in a variety of ways. This will enable them to have a good understanding of maths and not just the ability to follow a procedure. We want to **empower** them to want to ask questions and want to find the answers.

Aims: 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 nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

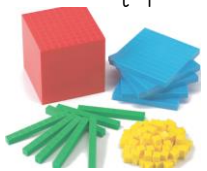
The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Our lessons are structured to enable all children to achieve and have an **opportunity** to make progress with their learning. Each lesson begins with a **CLIC maths** activity, where they have chance to develop their mental strategies, secure number facts and number manipulation. They then **develop** their mathematical fluency with the teacher modelling and explaining before they have a go themselves. Children then have a **reasoning/ problem solving** activity which is a variation of the previous work to demonstrate they have mastered the objective. Children who are ready can then **challenge** themselves with a task that requires applying the learning to a greater depth. We have our own programme of study which is supported with schemes like White Rose to support.

Year 1 – Yearly Overview

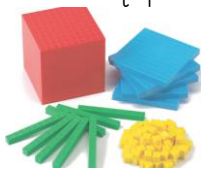
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn	Number and place value Working within 10		Addition and subtraction Within 10			Multiplication and division – repeated addition of equal groups		Fractions: equal groups, halves and quarters			Measurement : time		Geometry :Shape	
Spring	Number and place value : within 20		Addition and subtraction Within 20			Multiplication: counting in 2's 5's and 10's		Place Value within 50		Fractions: Unit and non unit fractions	Measurement: Length and height		Measurement: time	Measurement : Mass
Summer	Number and place value:: within 100		Addition and subtraction Recap + and -, inverse and missing numbers			Multiplication and division – arrays, grouping and sharing		Geometry : position and direction		Measurement : volume	Measurement : Money		Measurmnt : Time	Fractions: halves and quarters

Year 1 – Autumn term

National curriculum objectives	Prior knowledge from year R	Learning outcomes (including WR steps)	Mathematical aspect	Vocabulary	Manipulatives	Problem solving resources
• To count to and across 10, forwards and backwards, beginning with 0 or 1, or from any given number. • To count, read and write numbers to 10 in numerals and words •	Knows and understands numbers to 10, linking names of numbers, numerals, their value, and their position in the counting order. Knows how to use recall strategies and subitising to identify the number of concrete/pictorial objects in the set.	Maths resources for teachers | White Rose Maths Step 1 to 8 LO 1 know to sort objects in different ways LO 1 know how to count upto 10 objects LO 1 know how to count upto 10	Place value within 10.	sort group digit count back matched	Base ten equipment  Numicon  Multilink	**Number Book** **Playing Incey Wincey Spider** **Shopping**

	Knows number structures to 5.	objects from a larger group LO I know to represent objects with numerals LO I know to recognise numbers as words LO I know to count on from any number within 10 LO I know to count backwards within 10.				
• Given a number identify one more or one less		[Maths resources for teachers | White Rose Maths] **Step 9 to 10** LO I know how to count on one more		one more one less		

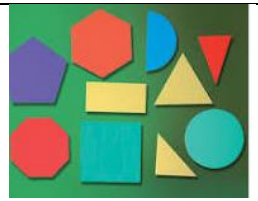
		LO I know how to count one less				
• Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least		**Steps 11- 14** LO I know to order objects and numbers LO I know comparing using less than, greater than and equals to LO I know to compare groups by matching LO I know how to compare numbers		fewer greater than equal to most least fewer greater than equal to most least fewest greatest		
• To identify and represent numbers using objects and		**Step 15**		number line		

pictorial representations including the number line •		LO I know counting on a number line to 10.				
• To read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs.	Knows how to automatically recall number bonds for numbers 0-5 and ***for 10***, including corresponding partitioning facts.	Maths resources for teachers | White Rose Maths Steps 1 – 17 Lo I know parts and wholes of a number LO I know the part whole model to show a number Lo I know how to write number sentences Lo I know fact families for addition Lo I know number bonds within 10.	**Addition within 10.**	altogether in total plus add How many are left? take away subtract count backwards How many more? How many fewer? difference	Base ten equipment  Numicon  Multilink 	**How Do You See it? *** **What Could It Be? * I** **2,4,6,8 *** **

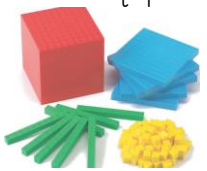
		Lo I know rapid recall of number bonds to 10. LO I know number bonds to 10 Lo I know to add two numbers together LO I know to add more to a number Lo I know to solve addition problems LO I know to find a part of a whole Lo I know the 8 main fact families LO I know to find how many left				

		LO I know subtraction on a numberline Lo I know subtracting one and two at a time.				
• 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.	Knows how to count in twos. Can subitise to 5.	Lo I know how to recognise equal groups Lo I know to add equal groups	**Multiplication and division; equal groups and arrays**	equal groups array row column double twice equal groups	Numicon  Multilink 	**Doubling Fives** * I
• Recognise , find and name a half as one of two equal parts of an object,	Knows that objects can be cut into two equal halves of the same whole.	Maths resources for teachers | White Rose Maths Steps 1 to 4	**Fractions: Finding half**	half (1/2) whole equivalent equal parts numerator denominator	Fraction tiles 	**Halving** ** I **Happy Halving** ***

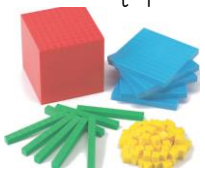
shape or quantity.		LO To know a half of an object or shape Lo To find a half of object or shape LO To know the half of a quantity Lo know how to find half of a quantity		fraction bar unit fraction	Cuisenaire rods  Fractions circles 	
• To sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. • To tell the time to the hour and half past the hour and	Knows the date and month of their birthday.	Maths resources for teachers | White Rose Maths Step one and four to six LO I know before and after LO I know hours, minutes and seconds LO I know to tell the time to the nearest hour Lo I know to tell the time to the nearest half an hour	**Measurement : time**	before after yesterday slower faster month year calendar date minute hand hour hand o'clock half past second minute hour	Clocks 	**The Games' Medals** ** I **Snap** * G **Times of Day** *

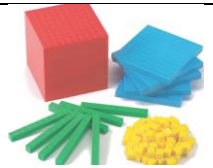
draw the hands on a clock face to show these times.						
• To recognise and name common 3D shapes including: 3D shapes (cuboids (including cubes), pyramids and spheres).	Know the mathematical names of 2d and 3d shapes. Knows that shapes can be placed in different locations.	Maths resources for teachers | White Rose Maths Steps 1 to 2 LO I know to recognise 3D shapes Lo I know to name 3D shapes	Geometry properties of 3D shapes	3D shape cube cuboid sphere pyramid cylinder cone	2 D and 3 D shapes 	Shaping It * I Always, Sometimes or Never? KS1 * Overlaps ** Three Squares *** I
• To recognise and name common 2D shapes, including: 2D shapes (rectangles (including squares), circles and triangles)	Know the mathematical names of 2d and 3d shapes. Knows that shapes can be placed in different locations.	Steps 3-5 Lo I know to recognise 2D shapes Lo I know to name 2D shapes Lo to find pattens with 2D and 3D shapes	Geometry : Properties of 2D	2D shape circle triangle rectangle face pattern		What's Happening? * Jig Shapes *

Year 1 – Spring term

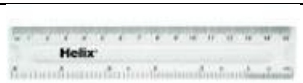
National curriculum objectives	Prior knowledge from year 1	Learning outcomes (including WR steps)	Mathematical aspect	Vocabulary	Manipulatives	Problem solving resources
• Count to 20 forwards and backwards, beginning at 0 or 1 from any given number • To count read and write numbers to 20 in words and numerals. • To represent and use number bonds and related subtraction facts within 20. • Given a number, identify one more or one less. • To identify and represent numbers using objects and pictorial	Knows how to use recall strategies and subitising to identify the number of concrete/pictorial objects in the set. Knows number structures to 5. Knows and understands equality, inequality.	Maths resources for teachers | White Rose Maths Steps 1 to 12 LO: I know counting within 20 LO I know the properties of 10 Lo I know the properties of 11, 12 and 13 LO I know the properties of 14, 15 and 16.	Place Value	add altogether ones (1s) tens (10s) number bond part-whole count total	Base ten equipment  Numicon  Multilink 	Robot Monsters * I Dotty Six * G All Change * G I Making Sticks ** I Eightness of Eight *

representations including the number line •		LO I know the properties of 17, 18 and 19 LO I know the properties of 20. LO I can find one more and one less within 20 LO I know to count on a numberline to 20 LO I know how to count on from any number within 20 LO I know to estimate numbers on a numberline to 20.				

		LO I know to compare numbers to 20.				
• To represent and use number bonds and related subtraction facts within 20. Doubles and near doubles.	Knows how to automatically recall number bonds for numbers 0-5 and *for 10*, including corresponding partitioning facts.	Maths resources for teachers | White Rose Maths Lo I know adding by counting on within 20 LO I know adding ones using number bonds LO I know finding and making number bonds to 20 Lo I know doubles to 20 Lo I know near doubles to 20 LO I know subtracting using number bonds Lo I know subtracting by counting back	Addition and subtraction within 20	altogether in total plus add How many are left? take away subtract count backwards How many more? How many fewer? difference	Base ten equipment  Numicon  Multilink 	Two Dice * I Sort Them Out (1) * G Find the Difference ** G
• Count in multiples of	Knows how to automatically recall number bonds for numbers	Maths resources for teachers | White Rose Maths	Multiplying by 2's 5's and 10's	most least fewest	Numicon	Doubling Fives * I

twos, fives and tens.	0-5 and ***for 10,*** including corresponding partitioning facts. Knows how to automatically the recall double facts up 5+5	Lo I know to count in 2's LO I know to count in 5's Lo I know to count in 10's		greatest number line equal groups array row column	 Multilink 	
• Count to 50 forwards and backwards, beginning with 0 or 1, or from any number.	Knows and understands numbers to 10, linking names of numbers, numerals, their value, and their position in the counting order. Knows how to use recall strategies and subitising to identify the number of concrete/pictorial objects in the set. Knows number structures to 5.	Maths resources for teachers | White Rose Maths Lo I know to count from 20 to 50 Lo I know to count in tens to 50 Lo I know to count by making groups of 10 Lo I know to find groups of ten and one Lo I know to partition into tens and ones	**Place Value within 50**	100 square number square place value grid	 Numicon  Multilink 	**Writing Digits** * **Shut the Box** * G **Biscuit Decorations** * **Same Length Trains** * **Grouping Goodies** ***

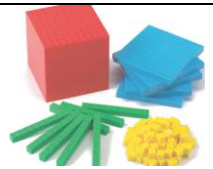
	Knows and understands equality, inequality.	Lo I know count on a numberline to 50 Lo I know to estimate on a numberline to 50 Lo I know to find one more and one less				
• Recognise , find and name a quarter as one of four equal parts of an object, shape or quantity.	Knows that objects can be cut into two equal halves of the same whole.	Maths resources for teachers | White Rose Maths Lo I know to recognise a quarter Lo I know to find a quarter of a shape. Lo I know to recognise a quarter of a number Lo I know to find a quarter of a number	**Fractions: quarters**	half halves quarter	Fraction tiles  Cuisenaire rods  Fractions circles 	**Fair Feast** * **Halving** ** I **Happy Halving**
• Measure and begin to record lengths and heights.	Knows terms such as longer, shorter, heavier, lighter.	Maths resources for teachers | White Rose Maths Steps 1 -3	**Measurement – length and height**	long, longer, longest short, shorter, shortest tall, taller, tallest length	Rulers – standard measures	**Sizing Them Up** * G **The Animals' Sports Day** * I **Different Sizes** * I

• Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half)		Lo I know to compare length and heights LO I know to measure length using objects LO I know to measure lengths in cm		height compare measure	 Multilink – use of non standard measures 	**Bottles (1)** * **Bottles (2)** * **Wallpaper** ** **Thirsty?** * **How Tall?** * I **Can You Do it Too?** ** G
• To sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.	Knows the date and month of their birthday.	Maths resources for teachers | White Rose Maths Steps 2 and 3 Lo I know days of the week Lo I know months of the year	**Measurement : time**	before after yesterday today tomorrow day week slower faster month year calendar date hour	Calendar Clocks  	**Times of Day** *
• Measurement: Weight Measure and begin to	Knows terms such as longer, shorter, heavier, lighter.	Maths resources for teachers | White Rose Maths	**Measurement : mass**	balance scales weight, weigh balanced	Balance scales	Nrich links **Bottles (1)** *

record mass/weight.		Steps 2 Lo I know how to measure mass of objects		measure estimate		**Bottles (2)** *
• Compare, describe and solve practical problems for mass/weight:[for example, heavy/light, heavier than and lighter than		Maths resources for teachers | White Rose Maths Steps I and 3 Lo I know lighter and heavier Lo I know how to compare mass of different objects		heavier, heaviest lighter, lightest,		

Year I – Summer term

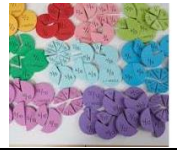
National curriculum objectives	Prior knowledge from year R	Learning outcomes (including WR steps)	Mathematical aspect	Vocabulary	Manipulatives	Problem solving resources
• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers to 100 in numerals. • Given a number, identify one more and one less. • Identify and represent numbers using objects and pictorial representations	Knows and understands numbers to 10, linking names of numbers, numerals, their value, and their position in the counting order	Maths resources for teachers | White Rose Maths LO I know how to count from 50 to 100 LO I know how to count to 100 in tens LO I know to partition into tens and ones Lo I know to use a number line within 100.	Place value : Place value to 100.	100 square number square place value grid	 Numicon  Multilink 	Grouping Goodies ***

including the number line, and use the language of: equal to, more than, less than, most, least.		LO I can find one more and one less upto 100. LO I know to compare numbers with the same number of 10's. Lo I know to compare any 2 digit numbers.				
• To solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9	Knows and recalls number facts and relationships to 10	Maths resources for teachers | White Rose Maths Step 9 and 10 LO I know how facts are related LO I know solving missing number problems	Addition and subtraction – missing numbers	altogether in total plus add How many are left? take away subtract count backwards How many more? How many fewer? difference	 Numicon  Multilink	The Tall Tower ***

						
• 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.	Knows how to count in twos. Can subitise to 5.	Maths resources for teachers | White Rose Maths **Steps 6 -9** LO I know to make arrays Lo I know to make doubles Lo I know to make equal groups – grouping Lo I know to make equal groups – sharing	**Multiplication and division grouping and sharing**	equal groups array row column double twice equal groups share	Numicon  Multilink 	
• Describe position, direction and movement, including whole, half, quarter and three-quarter turns	Knows characteristics of everyday objects and shapes and uses mathematical language to describe them.	Maths resources for teachers | White Rose Maths **Steps 1** Lo I know how to describe turns	**Geometry Position and direction**	whole turn	Physical movement for direction ICT use of moving beebots	**Turning I**

• Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside (non-statutory guidance)		Steps 2 – 5 LO I know to describe position using left and right Lo I know to describe position forward and backwards Lo I know to describe position above and below Lo I know to describe the position of a number in a sequence		position left right forwards backwards above below top middle bottom up down in between	Physical movement for direction ICT use of moving beebots	**Olympic Rings** ** I **Tangram Tangle** ***
• Measurement: Volume: Measure and begin to record, capacity and volume.		Maths resources for teachers | White Rose Maths Step 4 and 6 LO I know full and empty LO I know to measure capacity	Measurement : capacity and volume	full empty	Measuring jigs and containers 	Nrich links **Bottles (1)** * **Bottles (2)** *

• Compare, describe and solve practical problems for capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]		Maths resources for teachers | White Rose Maths Steps 5 and 7 LO : I know to compare different volumes LO I know to compare capacities.				
• Recognise and know the value of different denominators of coins and notes.	Knows that money is used to buy items.	Maths resources for teachers | White Rose Maths Steps 1 – 5 LO I know money counts in different units Lo I know to recognise different coins Lo I know to recognise different notes Lo I know to count in coins	**Measurement : money**	pound pence coin note pence (p)		

• To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	Knows that time passes and recognises routines. Knows the date and month of their birthday.	Maths resources for teachers | White Rose Maths Step 5 (recap) and Step 6 Lo I know to tell the time to the nearest hour Lo I Know to tell the time to the nearest half an hour	**Measurement : time**	minute hand hour hand o'clock half past		**Times of Day * I** **The Games' Medals ** I** **Snap**
• Recognise , find and name a quarter as one of four equal parts of an object, shape or quantity.	Knows that objects can be cut into two equal halves of the same whole.	Maths resources for teachers | White Rose Maths Recap step 4 if needed Steps 5 to 8 Step 5 Lo I know to recognise a quarter of a shape or object	**Fractions: halves and quarters]**	quarter parts of a whole	Fraction tiles  Cuisenaire rods  Fractions circles 	Nrich links **Fair Feast *** **Snap**
